TRAINING REGULATIONS

JEWELRY MAKING (FINE JEWELRY) NC III

DECORATIVE CRAFTS SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
East Service Road, South Superhighway, Taguig City

TABLE OF CONTENTS

JEWELRY MAKING (FINE JEWELRY) NC III

TRAINING REGULATIONS FOR

JEWELRY MAKING (FINE JEWELRY) NC III

SECTION 1 JEWELRY MAKING (FINE JEWELRY) NC III QUALIFICATION

The JEWELRY MAKING NC III Qualification consists of competencies along fine jewelry making or jewelry using precious gems or metals like gold, silver and diamond that a person must achieve in constructing/creating jewelry from different forms and assembled metals.

This Qualification is packaged from the competency map of JEWELRY MAKING as shown in Annex A.

The Units of Competency comprising this Qualification include the following:

UNIT CODE	BASIC COMPETENCIES
500311109	Lead workplace communication
500311110	Lead small teams
500311111	Develop and practice negotiation skills
500311112	Solve problems related to work activities
500311113	Use mathematical concepts and techniques
500311114	Use relevant technologies

UNIT CODE	COMMON COMPETENCIES
CON311202	Observe procedures, specifications and manuals of instructions
CON311203	Perform mensurations and calculations
HCS515202	Manage own performance
ICT315202	Apply quality standards
HCS323204	Apply basic first-aid

UNIT CODE	CORE COMPETENCIES
DCJ731305	Fabricate multi-parts jewelry
DCJ731306	Fabricate complex and intricately designed jewelry
DCJ731307	Perform stone setting activities
DCJ731308	Perform jewelry metal casting
DCJ731309	Produce jewelry wax model
DCJ731310	Engrave jewelry

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

- ❑ **Multi-parts Jewelry Fabricator**
- ❑ **Stone Setter**
- ❑ **Metal Caster**
- ❑ **Wax Modeler**
- ❑ **Jewelry Engraver**
- ❑ **Jewelry Maker**

SECTION 2 COMPETENCY STANDARDS

This section gives the details of the contents of the basic, common and core units of competency required in **JEWELRY MAKING (FINE JEWELRY) NC III**.

BASIC COMPETENCIES

UNIT OF COMPETENCY : LEAD WORKPLACE COMMUNICATION

UNIT CODE : 500311109

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to lead in the dissemination and discussion of ideas, information and issues in the workplace.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Communicate information about workplace processes	1.1 Appropriate ***communication method*** is selected 1.2 Multiple operations involving several topics areas are communicated accordingly 1.3 Questions are used to gain extra information 1.4 Correct sources of information are identified 1.5 Information is selected and organized correctly 1.6 Verbal and written reporting is undertaken when required 1.7 Communication skills are maintained in all situations
2. Lead workplace discussions	2.1. Response to workplace issues is sought 2.2. Response to workplace issues is provided immediately 2.3. Constructive contributions are made to workplace discussions on such issues as production, quality and safety 2.4. Goals/objectives and action plan undertaken in the workplace are communicated
3. Identify and communicate issues arising in the workplace	3.1 Issues and problems are identified as they arise 3.2 Information regarding problems and issues are organized coherently to ensure clear and effective communication 3.3 Dialogue is initiated with appropriate personnel. 3.4 Communication problems and issues are raised as they arise

RANGE OF VARIABLES

VARIABLE	RANGE
1. Methods of communication	1.1 Non-verbal gestures 1.2 Verbal 1.3 Face to face 1.4 Two-way radio 1.5 Speaking to groups 1.6 Using telephone 1.7 Written 1.8 Internet

EVIDENCE GUIDE

1. Critical aspects of competency	**Assessment requires evidence that the candidate:** 1.1 Dealt with a range of communication/information at one time 1.2 Made constructive contributions in workplace issues. 1.3 Sought workplace issues effectively 1.4 Responded to workplace issues promptly 1.5 Presented information clearly and effectively written form 1.6 Used appropriate sources of information 1.7 Asked appropriate questions 1.8 Provided accurate information
2. Underpinning knowledge and attitudes	2.1 Organization requirements for written and electronic communication methods 2.2 Effective verbal communication methods
3. Underpinning skills	3.1 Organize information 3.2 Understand and convey intended meaning 3.3 Participate in variety of workplace discussions 3.4 Comply with organization requirements for the use of written and electronic communication methods
4. Resource implications	The following resources **MUST** be provided: 4.1 Variety of Information 4.2 Communication tools 4.3 Simulated workplace
5. Method of assessment	Competency **MUST** be assessed through: 5.1 Direct Observation with questioning 5.2 Interview
6. Context of assessment	6.1 Competency may be assessed in the workplace or in simulated workplace environment 6.2 Assessment shall be observed while task are being undertaken whether individually or in-group

UNIT OF COMPETENCY : LEAD SMALL TEAMS

UNIT CODE : 500311110

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes to lead small teams including setting and maintaining team and individual performance standards**.**

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Provide team leadership	1.1 ***Work requirements*** are identified and presented to team members. 1.2 Reasons for instructions and requirements are communicated to team members. 1.3 ***Team members' queries and concerns*** are recognized, discussed and dealt with.
2. Assign responsibilities	2.1 Duties, and responsibilities are allocated having regard to the skills, knowledge and aptitude required to properly undertake the assigned task and according to company policy. 2.2 Duties are allocated having regard to individual preference, domestic and personal considerations, whenever possible.
3. Set performance expectations for team members	3.1 Performance expectations are established based on client needs and according to assignment requirements. 3.2 Performance expectations are based on individual team members duties and area of responsibility. 3.3 Performance expectations are discussed and disseminated to individual team members.
4. Supervise team performance	4.1 ***Monitoring of performance*** takes place against defined performance criteria and/or assignment instructions and corrective action taken if required. 4.2 Team members are provided with ***feedback***, positive support and advice on strategies to overcome any deficiencies. 4.3 ***Performance issues*** which cannot be rectified or addressed within the team are referenced to appropriate personnel according to employer policy. 4.4 Team members are kept informed of any changes in the priority allocated to assignments or tasks which might impact on client/customer needs and satisfaction. 4.5 Team operations are monitored to ensure that employer/client needs and requirements are met. 4.6 Follow-up communication is provided on all issues affecting the team. 4.7 All relevant documentation is completed in accordance with company procedures.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Work requirements	1.1 Client Profile 1.2 Assignment instructions
2. Team member's concerns	2.1 Roster/shift details
3. Monitor performance	3.1 Formal process 3.2 Informal process
4. Feedback	4.1 Formal process 4.2 Informal process
5. Performance issues	5.1 Work output 5.2 Work quality 5.3 Team participation 5.4 Compliance with workplace protocols 5.5 Safety 5.6 Customer service

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Maintained or improved individuals and/or team performance given a variety of possible scenario 1.2 Assessed and monitored team and individual performance against set criteria 1.3 Represented concerns of a team and individual to next level of management or appropriate specialist and to negotiate on their behalf 1.4 Allocated duties and responsibilities, having regard to individual's knowledge, skills and aptitude and the needs of the tasks to be performed 1.5 Set and communicated performance expectations for a range of tasks and duties within the team and provided feedback to team members
2. Underpinning knowledge and attitudes	2.1 Company policies and procedures 2.2 Relevant legal requirements 2.3 How performance expectations are set 2.4 Methods of Monitoring Performance 2.5 Client expectations 2.6 Team member's duties and responsibilities
3. Underpinning skills	3.1 Communication skills required for leading teams 3.2 Informal performance counseling skills 3.3 Team building skills 3.4 Negotiating skills
4. Resource implications	The following resources **MUST** be provided: 4.1 Access to relevant workplace or appropriately simulated environment where assessment can take place 4.2 Materials relevant to the proposed activity or task
5. Method of assessment	Competency may be assessed through: 5.1 Direct observations of work activities of the individual member in relation to the work activities of the group 5.2 Observation of simulation and/or role play involving the participation of individual member to the attainment of organizational goal 5.3 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork
6. Context of assessment	6.1 Competency assessment may occur in workplace or any appropriately simulated environment. 6.2 Assessment shall be observed while task are being undertaken whether individually or in-group.

UNIT OF COMPETENCY : DEVELOP AND PRACTICE NEGOTIATION SKILLS

UNIT CODE : 500311111

UNIT DESCRIPTOR : This unit covers the skills, knowledge and attitudes required to collect information in order to negotiate to a desired outcome and participate in the negotiation.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Plan negotiations	1.1 Information on ***preparing for negotiation*** is identified and included in the plan 1.2 Information on creating ***non verbal environments*** for positive negotiating is identified and included in the plan 1.3 Information on ***active listening*** is identified and included in the plan 1.4 Information on different ***questioning techniques*** is identified and included in the plan 1.5 Information is checked to ensure it is correct and up-to- date
2. Participate in negotiations	2.1 Criteria for successful outcome are agreed upon by all parties 2.2 Desired outcome of all parties are considered. 2.3 Appropriate language is used throughout the negotiation 2.4 A variety of questioning techniques are used. 2.5 The issues and processes are documented and agreed upon by all parties 2.6 Possible solutions are discussed and their viability assessed 2.7 Areas for agreement are confirmed and recorded 2.8 Follow-up action is agreed upon by all parties

RANGE OF VARIABLES

VARIABLE	RANGE
1. Preparing for negotiation	1.1 Background information on other parties to the negotiation 1.2 Good understanding of topic to be negotiated 1.3 Clear understanding of desired outcome/s 1.4 Personal attributes 1.4.1 self awareness 1.4.2 self esteem 1.4.3 objectivity 1.4.4 empathy 1.4.5 respect for others 1.5 Interpersonal skills 1.5.1 listening/reflecting 1.5.2 non verbal communication 1.5.3 assertiveness 1.5.4 behavior labeling 1.5.5 testing understanding 1.5.6 seeking information 1.5.7 self disclosing 1.6 Analytic skills 1.6.1 observing differences between content and process 1.6.2 identifying bargaining information 1.6.3 applying strategies to manage process 1.6.4 applying steps in negotiating process 1.6.5 strategies to manage conflict 1.6.6 steps in negotiating process 1.6.7 options within organization and externally for resolving conflict
2. Non verbal environments	2.1 Friendly reception 2.2 Warm and welcoming room 2.3 Refreshments offered 2.4 Lead in conversation before negotiation begins
3. Active listening	3.1 Attentive 3.2 Don't interrupt 3.3 Good posture 3.4 Maintain eye contact 3.5 Reflective listening
4. Questioning techniques	4.1 Direct 4.2 Indirect 4.3 Open-ended

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Demonstrated sufficient knowledge of the factors influencing negotiation to achieve agreed outcome. 1.2 Participated in negotiation with at least one person to achieve an agreed outcome.
2. Underpinning knowledge and attitudes	2.1 Codes of practice and guidelines for the organization 2.2 Organizations policy and procedures for negotiations 2.3 Decision making and conflict resolution strategies procedures 2.4 Problem solving strategies on how to deal with unexpected questions and attitudes during negotiation 2.5 Flexibility 2.6 Empathy
3. Underpinning skills	3.1 Interpersonal skills to develop rapport with other parties 3.2 Communication skills (verbal and listening) 3.3 Observation skills 3.4 Negotiation skills
4. Resource implications	The following resources **MUST** be provided: 4.1 Room with facilities necessary for the negotiation process 4.2 Human resources (negotiators)
5. Method of assessment	Competency may be assessed through: 5.1 Observation/demonstration and questioning 5.2 Portfolio assessment 5.3 Oral and written questioning 5.4 Third party report
6. Context of assessment	6.1 Competency to be assessed in real work environment or in a simulated workplace setting.

UNIT OF COMPETENCY : SOLVE PROBLEMS RELATED TO WORK ACTIVITIES

UNIT CODE : 500311112

UNIT DESCRIPTOR : This unit of covers the knowledge, skills and attitudes required to solve problems in the workplace including the application of problem solving techniques and to determine and resolve the root cause of problems.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Identify the problem	1.1 Variances are identified from normal operating parameters; and product quality. 1.2 Extent, cause and nature are of the problem are defined through observation, investigation and ***analytical techniques.*** 1.3 ***Problems*** are clearly stated and specified.
2. Determine fundamental causes of the problem	2.1 Possible causes are identified based on experience and the use of problem solving tools / analytical techniques. 2.2 Possible cause statements are developed based on findings. 2.3 Fundamental causes are identified per results of investigation conducted.
3. Determine corrective action	3.1 All possible options are considered for resolution of the problem. 3.2 Strengths and weaknesses of possible options are considered. 3.3 Corrective actions are determined to resolve the problem and possible future causes. 3.4 **Action *plans*** are developed identifying measurable objectives, resource needs and timelines in accordance with safety and operating procedures.
4. Provide recommendation/s to manager	4.1 Report on recommendations is prepared. 4.2 Recommendations are presented to appropriate personnel. 4.3 Recommendations are followed-up, if required.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Analytical techniques	1.1 Brainstorming 1.2 Intuitions/Logic 1.3 Cause and effect diagrams 1.4 Pareto analysis 1.5 SWOT analysis 1.6 Gant chart, Pert CPM and graphs 1.7 Scattergrams
2. Problem	2.1 Non – routine process and quality problems 2.2 Equipment selection, availability and failure 2.3 Teamwork and work allocation problem 2.4 Safety and emergency situations and incidents
3. Action plans	3.1 Priority requirements 3.2 Measurable objectives 3.3 Resource requirements 3.4 Timelines 3.5 Co-ordination and feedback requirements 3.6 Safety requirements 3.7 Risk assessment 3.8 Environmental requirements

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Identified the problem. 1.2 Determined the fundamental causes of the problem. 1.3 Determined the correct / preventive action. 1.4 Provided recommendation to manager. These aspects may be best assessed using a range of scenarios / case studies / 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. Underpinning knowledge and attitudes	2.1 Competence includes a thorough knowledge and understanding of the process, normal operating parameters, and product quality to recognize non-standard situations 2.2 Competence to include the ability to apply and explain, sufficient for the identification of fundamental cause, determining the corrective action and provision of recommendations 2.2.1 Relevant equipment and operational processes 2.2.2 Enterprise goals, targets and measures 2.2.3 Enterprise quality, OHS and environmental requirement 2.2.4 Principles of decision making strategies and techniques 2.2.5 Enterprise information systems and data collation 2.2.6 Industry codes and standards
3. Underpinning skills	3.1 Using range of formal problem solving techniques 3.2 Identifying and clarifying the nature of the problem 3.3 Devising the best solution 3.4 Evaluating the solution 3.5 Implementation of a developed plan to rectify the problem
4. Resource implications	4.1 Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios / case studies / what ifs will be required as well as bank of questions which will be used to probe the reason behind the observable action.

5. Method of assessment	Competency may be assessed through: 5.1 Case studies on solving problems in the workplace 5.2 Observation 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.
6. Context of assessment	6.1 In all workplace, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units.

UNIT OF COMPETENCY : USE MATHEMATICAL CONCEPTS AND TECHNIQUES

UNIT CODE : 500311113

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required in the application of mathematical concepts and techniques.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Identify mathematical tools and techniques to solve problem	1.1 Problem areas are identified based on given condition 1.2 ***Mathematical techniques*** are selected based on the given problem
2. Apply mathematical procedure/solution	2.1 Mathematical techniques are applied based on the problem identified 2.2 Mathematical computations are performed to the level of accuracy required for the problem 2.3 Results of mathematical computation is determined and verified based on job requirements
3. Analyze results	3.1 Result of application is reviewed based on expected and required specifications and outcome 3.2 ***Appropriate action*** is applied in case of error

RANGE OF VARIABLES

VARIABLE	RANGE
1. Mathematical techniques	May include but are not limited to: 1.1 Four fundamental operations Measurements 1.2 Use/Conversion of units of measurements 1.3 Use of standard formulas
2. Appropriate action	2.1 Review in the use of mathematical techniques (e.g. recalculation, re-modeling) 2.2 Report error to immediate superior for proper action

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Identified, applied and reviewed the use of mathematical concepts and techniques to workplace problems
2. Underpinning knowledge and attitudes	2.1 Fundamental operation (addition, subtraction, division, multiplication) 2.2 Measurement system 2.3 Precision and accuracy 2.4 Basic measuring tools/devices
3. Underpinning skills	3.1 Applying mathematical computations 3.2 Using calculator 3.3 Using different measuring tools
4. Resource implications	The following resources **MUST** be provided: 4.1 Calculator 4.2 Basic measuring tools 4.3 Case Problems
5. Method of assessment	Competency may be assessed through: 5.1 Authenticated portfolio 5.2 Written Test 5.3 Interview/Oral Questioning 5.4 Demonstration with questioning
6. Context of Assessment	6.1 Competency may be assessed in the work place or in a simulated work place setting

UNIT OF COMPETENCY : USE RELEVANT TECHNOLOGIES

UNIT CODE : 500311114

UNIT DESCRIPTOR : This unit of competency covers the knowledge, skills, and attitude required in selecting, sourcing and applying appropriate and affordable technologies in the workplace.

ELEMENT	***PERFORMANCE CRITERIA*** ***Italicized terms*** are elaborated in the Range of Variables
1. Study/select appropriate technology	1.1 Usage of different ***technologies*** is determined based on job requirements 1.2. Appropriate technology is selected as per work specification
2. Apply relevant technology	2.1 Relevant technology is effectively used in carrying out function 2.2 Applicable software and hardware are used as per task requirement 2.3 ***Management concepts*** are observed and practiced as per established industry practices
3. Maintain/enhance relevant technology	3.1 Maintenance of technology is applied in accordance with the ***industry standard operating procedure***, ***manufacturer's operating guidelines*** and ***occupational health and safety procedure*** to ensure its operative ability 3.2 Updating of technology is maintained through continuing education or training in accordance with job requirement 3.3 Technology failure/ defect is immediately reported to the concern/responsible person or section for ***appropriate action***

RANGE OF VARIABLES

VARIABLE	RANGE
1. Technology	May include but are not limited to: 1.1 Office technology 1.2 Industrial technology 1.3 System technology 1.4 Information technology 1.5 Training technology
2. Management concepts	May include but not limited to: 2.1 Real Time Management 2.2 KAIZEN or continuous improvement 2.3 5 S 2.4 Total Quality Management 2.5 Other management/productivity tools
3. Industry standard operating procedure	3.1 Written guidelines relative to the usage of office technology/equipment 3.2 Verbal advise/instruction from the co-worker
4. Manufacturer's operating guidelines/ instructions	4.1 Written instruction/manuals of specific technology/equipment 4.2 General instruction manual 4.3 Verbal advise from manufacturer relative to the operation of equipment
5. Occupational health and safety procedure	5.1 Relevant statutes on OHS 5.2 Company guidelines in using technology/equipment
6. Appropriate action	6.1 Implementing preventive maintenance schedule 6.2 Coordinating with manufacturer's technician

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Studied and selected appropriate technology consistent with work requirements 1.2 Applied relevant technology 1.3 Maintained and enhanced operative ability of relevant technology
2. Underpinning knowledge and attitudes	2.1 Awareness on technology and its function 2.2 Repair and maintenance procedure 2.3 Operating instructions 2.4 Applicable software 2.5 Communication techniques 2.6 Health and safety procedure 2.7 Company policy in relation to relevant technology 2.8 Different management concepts 2.9 Technology adaptability
3. Underpinning skills	3.1 Relevant technology application/implementation 3.2 Basic communication skills 3.3 Software applications skills 3.4 Basic troubleshooting skills
4. Resource implications	The following resources **MUST** be provided: 4.1 Relevant technology 4.2 Interview and demonstration questionnaires 4.3 Assessment packages
5. Method of assessment	Competency may be assessed through: 5.1 Interview 5.2 Actual demonstration 5.3 Authenticated portfolio (related certificates of training/seminar)
6. Context of assessment	6.1 Competency may be assessed in actual workplace or simulated environment

COMMON COMPETENCIES

UNIT OF COMPETENCY : OBSERVE PROCEDURES, SPECIFICATIONS AND MANUALS OF INSTRUCTIONS

UNIT CODE : CON311202

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes in identifying, interpreting, applying services in accordance with specifications and manuals, and storage of manuals.

ELEMENT	PERFORMANCE CRITERIA ***Bold and Italicized*** terms are elaborated in the Range of Variables
1. Identify and access specification / manuals	1.1 Appropriate manuals are identified and accessed as per job requirements. 1.2 Version and date of manual are checked to ensure that correct specification and procedure are identified.
2. Interpret manuals	2.1 Relevant sections/ chapters of specifications/manuals are accessed in relation to the work to be conducted. 2.2 Information and procedure/s in the manual are interpreted in accordance with current industry practices.
3. Apply information in manual	3.1 Manual is interpreted according to job requirements and in accordance with current industry practices. 3.2 Work steps are correctly identified in accordance with manufacturer's specification. 3.3 (Manual) Data in the manual data are applied according to the given task. 3.4 All correct sequencing and adjustments are interpreted in accordance with information contained on the manual or in accordance with specifications.
4. Store manuals	4.1 Manual or specifications are stored appropriately to ensure prevention of damage, ready access and updating of information when required in accordance with company requirements and current industry practices.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Procedures, Specifications and Manuals of instructions	Kinds of Manuals: 1.1 Manufacturer's Specification Manual 1.2 Periodic Maintenance Manual 1.3 Maintenance Procedure Manual 1.4 Repair Manual

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Identified and accessed specification/manuals as per job requirements. 1.2 Interpreted manuals in accordance with industry practices. 1.3 Applied information in manuals according to the given task. 1.4 Stored manuals in accordance with company requirements.
2. Underpinning Knowledge	2.1 Type of manuals used in the Decorative Crafts (Jewelry) Sector 2.2 Identification of symbols used in the manuals 2.3 Identification of units of measurements 2.4 Unit/s of conversion
3. Underpinning Skills	3.1 Reading and comprehension skills required to identify and interpret decorative crafts (jewelry) manuals and specifications 3.2 Accessing information and data
4. Resource Implications	The following resources should be provided: 4.1 All manuals/catalogues relative to the decorative crafts (jewelry) sector
5. Methods of Assessment	Competency in this unit must be assessed through: 5.1 Direct observation 5.2 Questions/Interview
6. Context for Assessment	6.1 Competency assessment must be undertaken in accordance with the endorsed TESDA assessment guidelines 6.2 Assessment may be conducted in the workplace or simulated environment

UNIT OF COMPETENCY : PERFORM MENSURATIONS AND CALCULATIONS

UNIT CODE : CON311203

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes in identifying and measuring objects based on the required performance standards.

ELEMENT	PERFORMANCE CRITERIA ***Bold and Italicized*** terms are elaborated in the Range of Variables
1. Select measuring instrument	1.1 Object/design or component to be measured is identified, classified and interpreted in accordance with the appropriate ***geometric shape/s***. 1.2 Measuring tools are selected/identified as per object/design to be measured or job requirements 1.3 Correct design and specifications are obtained from relevant sources. 1.4 Appropriate measuring instruments are selected according to job requirements 1.5 Alternative measuring tools are used without sacrificing cost and quality of work.
2. Carry out measurements and calculations	2.1 Accurate ***measurements*** are obtained according to job requirements. 2.2 Alternative measuring tools are used without sacrificing cost and quality of work. 2.3 ***Calculation*** needed to complete work tasks are performed using four basic process of addition (+), subtraction (-) multiplication (x) and division(/) including but not limited to trigonometric functions, algebraic computations 2.4 Calculations involving fractions, percentages and mixed numbers are used to complete workplace tasks. 2.5 Numerical computation is self-checked and corrected for accuracy. 2.6 Instruments are read to the limit of accuracy and precision of the tool used. 2.7 Systems of measurement are identified and converted according to job requirements/ISO 2.8 Work pieces are measured according to job requirements.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Geometric shape	Including but not limited to: 1.1 Round 1.2 Square 1.3 Rectangle 1.4 Triangle 1.5 Sphere 1.6 Cone
2. Measuring instruments	Including but not limited to: 2.1 tape measure 2.2 various calipers 2.3 weighing scale 2.4 densimeter 2.5 ruler 2.6 micrometer
3. Measurements and calculations	Including but not limited to: 3.1 size 3.2 width 3.3 length 3.4 weight 3.5 area 3.6 volume 3.7 diameter 3.8 thickness 3.9 angle/s

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Selected and prepared appropriate measuring instruments in accordance with job requirements 1.2 Performed measurements and calculations according to job requirements/ISO
2. Underpinning knowledge	2.1 **TRADE MATHEMATICS/MENSURATION** 2.1.1 Four fundamental operation 2.1.2 Linear measurement 2.1.3 Dimensions 2.1.4 Unit conversion 2.1.5 Ratio and proportion 2.1.6 Trigonometric functions 2.1.7 Algebraic equations
3. Underpinning skills	3.1 Performing mensuration and calculation by addition, subtraction, multiplication and division: trigonometric functions and algebraic equations 3.2 Visualizing objects and shapes 3.3 Interpreting and using appropriate formula(s) for volume, areas, perimeters of plane and geometric figures 3.4 Proper handling and storing of measuring instruments
4. Resource implications	The following resources should be provided: 4.1 Workplace location 4.2 Problems to solve 4.3 Measuring instrument/s appropriate to carry out tasks 4.4 Instructional materials relevant to the proposed activity
5. Methods of assessment	Competency in this unit must be assessed through: 5.1 Direct observation/Actual test. 5.2 Questions/Interview
6. Context for assessment	6.1 Competency assessment must be undertaken in accordance with the endorsed TESDA assessment guidelines 6.2 Assessment may be conducted in the workplace or in a (simulated) similar environment

UNIT OF COMPETENCY : MANAGE OWN PERFORMANCE

UNIT CODE : HCS516202

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required in effectively managing one's workload and quality of work.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Plan for completion of own workload	1.1 ***Tasks*** accurately identified 1.2 Priority allocated to each task 1.3 Time lines allocated to each task or series of tasks 1.4 Tasks deadlines known and complied with whenever possible 1.5 Work schedules are known and completed within agreed time frames 1.6 Work plans developed according to assignment requirements and employer policy 1.7 Uncompleted work or tasks detailed and responsibility for completion passed to incoming shift or other appropriate persons
2. Maintain quality of own performance	2.1 Personal performance continually monitored against agreed ***performance standards*** 2.2 Advice and guidance sought when necessary to achieve or maintain agreed standards 2.3 Guidance from management applied to achieve or maintain agreed standards 2.4 Standard of work clarified and agreed according to employer policy and procedures
3. Build credibility with customers/clients	3.1 Client expectations for reliability, punctuality and appearance adhered to 3.2 Possible causes of client/customer dissatisfaction identified, dealt with and recorded according to employer policy 3.3 Client fully informed of all relevant security matters in a timely manner and according to agreed reporting procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tasks	1.1 May identified through: 1.1.1 Assignment instructions 1.1.2 Verbal Instructions by senior officer 1.1.3 Policy Documents 1.1.4 Duty Statements 1.1.5 Self Assessment 1.2 May be: 1.2.1 Daily tasks 1.2.2 Weekly tasks 1.2.3 Regularly or irregularly occurring tasks
2. Performance Standards	May include: 2.1 Assignment/Instructions 2.2 Procedures established in policy documents

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Planned for completion of own workload 1.2 Assessed verbal or written work plan through observation and discussion of site and employer requirements 1.3 Demonstrated capacity to complete task within specified time frame 1.4 Maintained quality of own performance
2. Underpinning knowledge and attitudes	2.1 Site and assignment requirements 2.2 Employer policy on performance management 2.3 Indicators of appropriate performance for each area of responsibility 2.4 Steps for improving or maintaining performance
3. Underpinning skills	3.1 Capacity to plan and prioritize security work loads and requirements 3.2 Time and task management
4. Resource implications	The following resources **MUST** be provided: 4.1 Assessment Centers/Venues 4.2 Accredited Assessors 4.3 Modes of Assessment 4.4 Evaluation Reports 4.5 Access to a relevant venue, equipment and materials 4.6 Assignment Instructions 4.7 Logbooks 4.8 Operational manuals and makers'/customers' instructions (if relevant) 4.9 Assessment Instruments, including personal planner and assessment record book
5. Method of assessment	Competency may be assessed through: 5.1 Written Test/Examination 5.2 Demonstration with questioning 5.3 Observation with questioning
6. Context of assessment	6.1 Competency assessment must be undertaken in accordance with the endorsed TESDA assessment guidelines 6.2 Assessment may be conducted in the workplace or in a (simulated) similar environment

UNIT OF COMPETENCY : APPLY BASIC FIRST AID

UNIT CODE : HCS323203

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to provide an initial response where First Aid is required. In this unit it is assumed that the First Aider is working under supervision and / or according to established workplace First Aid procedures and policies

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Assess the situation	1.1 ***Physical hazards*** to self and casualty's health and safety are identified. 1.2 Immediate ***risks*** to self and casualty's occupational health and safety (OSH)are minimized by controlling the hazard in accordance with OSH requirements. 1.3 Casualty's ***vital signs*** and physical condition are assessed in accordance with workplace procedures.
2. Apply basic first aid techniques	2.1 ***First Aid management*** is provided in accordance with established First Aid procedures. 2.2 Casualty is reassured in a caring and calm manner and made comfortable using available resources. 2.3 First Aid assistance is sought from others in a timely manner and as appropriate. 2.4 ***Casualty's condition*** is monitored and responded to in accordance with effective ***First Aid principles*** and workplace procedures. 2.5 Details of casualty's physical condition, changes in conditions, management and response are accurately recorded in line with organizational procedures. 2.6 Casualty management is finalized according to his/her needs and First Aid principles.

3. Communicate details of the incident	3.1 Appropriate medical assistance is requested using relevant ***communication media*** and ***equipment.***
	3.1 Details of casualty's condition and management activities are accurately conveyed to emergency services/relieving personnel.
	3.2 Reports to supervisors are prepared in a timely manner, presenting all relevant facts according to established company procedures.

RANGE OF VARIABLES

VARIABLE	RANGE
1. First Aid Management	This may include but not limited to: 1.1 Workplace policies and procedures 1.2 Industry/site specific regulations, codes 1.3 OSH 1.4 State and territory workplace health and safety requirements 1.5 Allergies the casualty may have
2. Physical Hazards	Physical hazards may include: 2.1 Workplace hazards 2.2 Environmental hazards 2.3 Proximity of other people 2.4 Hazards associated with casualty management processes
3. Risks	Risks may include: 3.1 Worksite equipment, machinery and substances 3.2 Environmental risks 3.3 Bodily fluids 3.4 Risk of further injury to the casualty 3.5 Risk associated with the proximity of the others and bystanders
4. Casualty's Condition	Casualty's condition may include but not limited to the following: 4.1 Abdominal injuries 4.2 Allergic reactions 4.3 Bleeding 4.4 Burns-thermal, chemical, friction, electrical 4.5 Cardiac conditions 4.6 Chemical contamination 4.7 Cod injuries 4.8 Crush injuries 4.9 Dislocations 4.10 Drowning 4.11 Eye injuries 4.12 Fractures

VARIABLE	RANGE
	4.13 Head injuries 4.14 Epilepsy 4.15 Minor skin injuries 4.16 Neck and spinal injuries 4.17 Needle stick injuries 4.18 Poisoning and toxic substances 4.19 Shock 4.20 Smoke inhalation
5. Equipment and Resources	Equipment and other resources may include: 5.1 Defibrillation units 5.1 Pressure bandages 5.2 Thermometers 5.3 First Aid kit 5.4 Eyewash 5.5 Thermal blankets 5.6 Pocket face masks 5.7 Rubber gloves 5.8 Dressing 5.9 Space device 5.10 Cervical collars
6. Communication system	6.1 Mobile phone 6.2 Satellite phones 6.3 HF/VHF radio 6.4 Flags 6.5 Flares 6.6 Two - way radio 6.7 Email 6.8 Electronic equipment
7. Vital signs	7.1 Breathing 7.2 Circulation 7.3 Consciousness
8. First Aid Principles	8.1 Checking the site for danger to self, casualty' and others and minimizing the danger 8.2 Checking and maintaining the casualty's airways, breathing and circulation

EVIDENCE GUIDE

1. Critical aspects of competency	*Assessment requires evidence that the candidate:* 1.1 Complied with institutional requirements, OSH laws infections control and manual handling procedures and relevant health regulations 1.2 Identified physical hazards of the casualty and minimized immediate risks 1.3 Assessed and monitored the physical condition of the casualty 1.4 Responded to emergency using basic life support measures. 1.5 Provided initial response where First Aid is required 1.6 Dealt with complex casualties or incident 1.7 Prepared reports to concerned personnel in a timely manner
2. Underpinning knowledge	2.1 Basic anatomy and physiology 2.2 Company standard operating procedures (SOPs) 2.3 Dealing with confidentiality 2.4 Knowledge of the First Aiders' skills limitations 2.5 OSH legislation and regulations 2.6 How to gain access to and interpret material safety data sheets
3. Underpinning skills	3.1 Resuscitation 3.2 Safe manual handling of casualty 3.3 Consideration of the welfare of the casualty 3.4 Report preparation 3.5 Communication skills 3.6 Ability to interpret and use listed documents
4. Resource implications	The following resources **MUST** be provided: 4.1 Access to relevant work station 4.2 Relevant institutional policies, guidelines procedure and protocol 4.3 Equipment and materials relevant to the proposed activities

5. Method of assessment	Competency may be assessed through: 5.1 Demonstration with questioning 5.2 Interview 5.3 Third Party Report 5.4 Portfolio
6. Context of assessment	6.1 Assessment may be done in a workplace or simulated work area setting.

UNIT TITLE:	**APPLY QUALITY STANDARDS**
UNIT CODE:	**ICT315202**
UNIT DESCRIPTOR:	This unit covers the knowledge, skills, attitudes required 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 ***Bold and Italicized*** terms are elaborated in the Range of Variables
1. Assess quality of received materials or components	1.1 Received ***materials or component parts*** are checked based on material specifications 1.2 ***Defective*** material or components are identified and isolated following standard operating procedures 1.3 Defective materials or components are replaced in accordance with workplace procedures.
2. Assess own work	2.1 ***Documents*** relative to ***quality*** within the company is identified and used 2.2 Completed work is checked based on workplace standards relevant to the task undertaken 2.3 In cases of deviations from specified quality standards, causes are documented and reported in accordance with the workplace' standards operating procedures
3. Engage in process improvement	3.1 Process improvement procedures are participated in relation to workplace assignment 3.2 Work is carried out in accordance with process improvement procedures 3.3 Performance of operation or quality of product or service is monitored in accordance to ***customer*** satisfaction

RANGE OF VARIABLES

VARIABLE	RANGE
1. Materials / components	May include but not limited to: 1.1 Electrical materials and consumables 1.2 Welding materials and consumables 1.3 Furniture making materials and consumables 1.4 Carpentry materials and consumables 1.5 Masonry materials and consumables 1.6 Heavy equipment materials and consumables
2. Defective	May include but not limited to: 2.1 Components / materials do not conform to specification 2.2 Components / materials containing manufacturing defects 2.3 Components / materials do not conform with government regulation i.e., PEC, environmental code 2.4 Components / materials possessed safety defects
3. Documents	May include but not limited to: 3.1 Organization work procedures / reports 3.2 Manufacturer's instruction manual 3.3 Customer requirements 3.4 Forms
4. Quality standards	May include but not limited to: 4.1 Materials / consumables 4.2 Component parts 4.3 Final product 4.4 Production processes 4.5 Methods
5. Customer	May include but not limited to: 5.1 Co-worker 5.2 Supplier 5.3 Client 5.4 Organization receiving the product or service

EVIDENCE GUIDE

1. Critical aspect of competency	Assessment must show that the candidate: 1.1 Demonstrates ability to follow company's standard operating procedures 1.2 Demonstrates knowledge of types and uses of materials and component parts 1.3 Demonstrates knowledge of quality standards 1.4 Demonstrates ability to follow process improvement procedures
2. Underpinning knowledge	2.1 Production processes 2.2 Types and uses of materials and components 2.3 Company standard operating procedures 2.4 Safety practices and applications
3. Underpinning skills	3.1 Following production processes 3.2 Checking of materials and component parts and finished products 3.3 Following company standard operating procedures 3.4 Applying safety practices
4. Method of assessment	4.1 Observation of practical skills 4.2 Oral questions
5. Resource implication	The following materials must be provided: 5.1 Materials and component parts relevant to the activity 5.2 Documents related to quality
6. Context of Assessment	6.1 Assessment may be conducted in the workplace or in a simulated environment.

CORE COMPETENCIES

UNIT OF COMPETENCY: FABRICATE MULTI-PARTS JEWELRY

UNIT CODE : DCJ731305

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes in fabricating multi-parts jewelry of fine jewelry.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare requirements for fabrication	1.1 Jewelry design construction, dimension, composition characteristic and finishing requirements are established from predetermined specifications in accordance with client requirements and organizational standard 1.2 Fabrication and finish specifications and required outcomes as indicated in the prescribed form are confirmed and clarified as necessary with ***appropriate person(s)*** and in accordance with organizational and client requirements 1.3 ***Appropriate preparation and fabrication techniques*** are established in accordance with in accordance with job requirements and organizational procedures 1.4 ***Fabrication and finishing activities*** are prioritized in accordance with designated timeframes, organizational and specific design requirements 1.5 ***Tools, machineries and equipment*** are selected, requested and checked for operational effectiveness in accordance with the manufacturer's specification and organizational procedures. 1.6 ***Materials and consumables*** are ~~also~~ selected, requested and obtained in accordance with organizational requirements and in consultation with appropriate person/s 1.7 ***Material preparation*** is conducted using safe operating practices and protective equipment, in accordance with OHS and organizational requirements

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
2. Perform fabrication	2.1 Pre-formed multi-parts materials are fabricated to produce components using applicable fabrication activities in accordance with OH&S, organizational and industry accepted methods 2.2 Fabricated item is checked to ensure construction conforms with required specifications and quality, applicable to industry organizational standard 2.3 When necessary, defective items are reworked/retouched in accordance with specifications and organizational procedures 2.4 Proper care in handling and accounting of materials is strictly observed to ensure that quality and quantity is followed in accordance with the organizational requirements
3. Perform post-fabrication activities	3.1 ***Documentation*** completed and processed in accordance with organizational requirements and standards 3.2 Finished product is quality checked for dimension and construction in accordance with clients' specifications and organizational requirements 3.3 Unused/excess materials of same kind and quality are melted together for proper re-testing of its quality and quantity as required by organizational procedures and submitted to issuing personnel for storage and safekeeping 3.4 Notification of work completion is made to appropriate person(s) in accordance with organizational procedures 3.5 Work area, tools and equipment are cleaned and stored in accordance with OHS and organizational requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate person(s)	May include but are not limited to: 1.1 Supervisor 1.2 Quality Control Personnel 1.3 Designer
2. Appropriate preparation and fabrication techniques	May include but are not limited to: 2.1 Gemstones are pre-positioned to develop an imaginary picture of the jewelry to be fabricated 2.2 Appropriate pre-fabricated materials and components are prepared, selected, requested and obtain from the issuing officer 2.3 Gemstones are calibrated using precision devices for proper construction of holders on its mounting. 2.4 Necessary patterns for cut out parts are develop 2.5 Design modification is often suggested for better appearance of the design especially with multiple numbers of bigger sizes of stone 2.6 Type of bezel to hold smaller gems are prepared and selected to ensure best appearance for the required design. 2.7 Tools, machineries and equipment are selected and prepared to ensure the smooth flow of work 2.8 Required materials are requested and obtained to start the process 2.9 Size replica of bigger stones are made to avoid accident of loss and damage during the process... these materials are entrusted to issuing person properly for safe keeping while it is readily available in cases of needs
3. Fabrication and finishing activities	May include but are not limited to: 3.1 Make mounting for major gemstone(s) 3.2 Make mountings for lesser size gem. 3.3 Cut, shape, file and detail part required in the Design 3.4 Assemble top portion of the item by soldering parts together 3.5 Make appropriate shank, clips, and other parts required to its function... 3.6 Re-check sizes, thickness, height and other specification 3.7 Pre-polish major parts before final assembly 3.8 Seek second opinion. from appropriate person(s) before final assembly 3.9 De-oxidize item 3.10 Fine finish items using finer grit sand paper

VARIABLE	RANGE
	3.11 Present finished product to proper personnel for quality inspection. 3.12 Re-melt left over (filings, small cuttings, unused tiny parts) metal materials ensuring that no other metal was mix to guarantee maintenance of the quality of metal(s)
4. Tools, machineries and equipment	May include but not limited to: **Hand tools** 4.1 Measuring devises 4.2 Different Jewelers' pliers 4.3 Jewelers' saw 4.4 Set of files 4.5 Set of needle files 4.6 Sear 4.7 Tweezers 4.8 Ball hammers 4.9 Rawhide or wood mallet 4.10 Ring mandrel 4.11 Assorted rubber wheels with mandrels **Equipment and Machineries** 4.12 Work bench 4.13 Anvil 4.14 Melting and soldering blow torch 4.15 Roll press 4.16 Motor with flexible shaft
5. Materials	May include but not limited to: 5.1 Precious metals 5.1.1 Gold 5.1.2 Silver 5.2 Non- precious base metals 5.2.1 Copper Nickel 5.2.2 Zinc 5.2.3 Brass 5.3 Precious and/or Non- precious gemstones 5.4 Non-traditional materials for jewelry making e.g. Leather, sea shells, woods etc.…

VARIABLE	RANGE
6. Consumables	May include but not limited to: 6.1 Chemicals 6.1.1 Borax 6.1.2 Boric Acid 6.1.3 Potassium Nitrate 6.1.4 Alum 6.2 Supplies 6.2.1 Fuel 6.2.2 Emery paper 6.2.3 Solder 6.2.4 Burs 6.2.5 Drill bits
7. Material preparation	May include but not limited to: 7.1 Anneal pre-fabricated materials, e.g. tube, wires, Sheets etc… 7.2 Test ready made components and pars ensuring proper quality 7.3 Pre-alloyed metals: 7.3.1 Carefully check its weight, 7.3.2 Test its quality 7.3.3 Place in crucible with sufficient flux 7.3.4 Fuse all metals into complete liquid stage for sheet preparation requirements 7.4 Pure metals 7.4.1 Ask help from appropriate person to do the alloying 7.4.2 Do the task on 7.1 7.5 De- oxidize metal after annealing and before and after soldering 7.6 Work area is free of other non ferrous metals to avoid contamination to materials (metals)
8. Documentation	May include but are not limited to: 8.1 Job Order form 8.2 Work instructions and procedures 8.3 Materials and consumables used 8.4 Time and record sheets 8.5 Unused/excess materials

EVIDENCE GUIDE

1. Critical Aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Identified and established fabrication requirements for different multi-parts(traditional and non-traditional) design of jewelry requirements based from predetermined specifications in accordance with organizational and client requirements 1.2 Selected and obtained tools, equipment, materials and consumables with appropriate person/s in accordance with organizational and OH&S requirements 1.3 Performed fabrication in accordance with OH&S, organizational and industry accepted methods 1.4 Fabricated items are checked for quality and to ensure construction conforms with required specifications and organizational requirements and standards 1.5 When necessary, reworked/retouched defective items in accordance with specifications and organizational procedures 1.6 Checked finished product for quality, dimension and construction in accordance with client's specifications and organizational requirements 1.7 Notified work completion to appropriate person/s in accordance with organizational procedures 1.8 Cleaned and stored work area, tools and equipment in accordance with OHS and organizational requirements 1.9 Used personal protective equipment (PPE*)* in accordance with job requirements and OHS requirements 1.10 Demonstrated knowledge on calculation and measurements
2 Underpinning Knowledge	2.1 Types of jewelry 2.2 Multi-parts jewelry fabrication and assembly 2.3 Properties of metals used in jewelry 2.4 Basic knowledge in tools, machineries and equipment, its usage and serviceability 2.5 Relevant materials and consumables used in jewelry fabrication 2.6 Design interpretation and specification 2.7 Philippine National Standard on jewelry 2.8 Safe work practices and procedures/OH & S requirements 2.9 Accounting of unused/excess materials 2.10 First-aid measures

3. Underpinning Skills	3.1 Following oral and written instructions. 3.2 Reading and interpreting specification, illustrations and drawings 3.3 Measurements, weighing and calculation 3.5 Ability to identify appropriate tools, machineries and equipment 3.6 Applying manufacturing techniques 3.7 Applying first-aid measures 3.7 Applying safe working skills 3.8 Identifying alternative metals
4. Resource Implications	**The following resources should be provided:** 4.1 Materials relevant to the activity 4.2 Tools, machineries and equipment 4.3 Consumables 4.4 PPE 4.5 Workplace 4.6 Documentation 4.7 Exhaust fan 4.8 Fire extinguisher
5. Method of Assessment	**Competency in this unit ~~mus~~t may be assessed through:** 5.1 Demonstration with oral questioning 5.2 Portfolio (Training Certificates, Certificate of Employment, Work pieces, etc.) 5.3 Third-Party Report
6. Context of Assessment	6.1 Competency may be assessed in the workplace or in a simulated work environment (TESDA Accredited Assessment Center)

UNIT OF COMPETENCY : FABRICATE COMPLEX AND INTRICATELY DESIGNED JEWELRY

UNIT CODE : DCJ731306

UNIT DESCRIPTOR : This unit covers knowledge, skills and attitudes in fabricating fine jewelry with complex and intricate designs

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare requirements for fabrication	1.1 Design fabrication system, techniques, process, and finishing requirements are established from predetermined specifications in accordance with organizational and client requirements 1.2 Fabrication and finish specifications and required outcomes as indicated in the prescribed form are confirmed and clarified as necessary with ***appropriate person(s)*** and in accordance with organizational and client's requirements 1.3 ***Appropriate preparation and fabrication techniques*** are established in accordance with in accordance with job requirements and organizational procedures 1.4 ***Fabrication and finishing activities*** are prioritized in accordance with designated timeframes, organizational and specific plating requirements 1.5 ***Tools, machineries and equipment*** are selected, requested and checked for operational effectiveness in accordance with the manufacturer's specification and organizational procedures 1.6 ***Materials and consumables*** are also selected, requested and obtained in accordance with organizational requirements and in consultation with appropriate person(s) 1.7 ***Material preparation*** is conducted using safe operating practices and protective equipment, in accordance with OHS and organizational requirements

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
2. Perform fabrication	2.1 Pre-formed materials are fabricated to produce components using applicable fabrication activities and safe operating practices, protective equipment, and in accordance with OH&S, organizational and industry accepted methods 2.2 Fabricated item is checked to ensure construction conforms with required specifications and quality, applicable to industry and organizational standards 2.3 When necessary, defective items are reworked/retouched in accordance with specifications and organizational procedures 2.4 Fabricated items are submitted to appropriate person(s) for quality control in accordance with organizational requirements and standards 2.5 Proper care in handling of metals (materials) is strictly observed to ensure the quality and quantity is followed in accordance with the organizational requirements
3. Perform post-fabrication activities	3.1 ***Documentation*** is-completed and processed in accordance with organizational requirements and standards 3.2 Unused/excess materials of same kind and quality are melted together for proper re-testing of its quality and quantity as required by organizational procedures and submitted to issuing personnel for storage and safekeeping 3.3 Notification of work completion is made to appropriate person(s) in accordance with organizational procedures 3.4 Work area, tools and equipment are cleaned and stored in accordance with OHS and organizational requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate person(s)	May include but are not limited to: 1.1 Quality Control Personnel 1.2 Client 1.3 Designer
2. Appropriate preparation and fabrication techniques	May include but are not limited to: 2.1 Read and interpret design sketches from the client 2.2 Communicate and seek and take notes other opinion from appropriate person(s). Suggest modification if necessary 2.3 Utilize graphic illustration 2.4 Check all available ready made parts and components 2.5 Obtain pre-fabricated wires, sheets and tubes 2.6 Utilize lost wax casting techniques 2.7 Use wax carving techniques and/ or CADCAM 2.8 Design and plan fabrication of intricate, moving and functional component and parts 2.9 Select and obtain tools, machineries and equipment needed for fabrication 2.10 Plan in advance surface texture, finishing and other metal and surface treatment
3. Fabrication and finishing activities	May include but are not limited to: 3.1 Handmade techniques 3.2 Wax carving techniques 3.3 Lost wax casting techniques 3.4 Surface polishing 3.5 Engraving and other surface modification, e.g. texturing, granulation, enameling etc.. 3.6 Stone setting 3.7 Special metal treatment, e.g. Anti-tarnish, oxidizing, plating, etc.

VARIABLE	RANGE
4. Tools, machineries and equipment	May include but not limited to: **Hand Tools** 4.1 HoldingTools 4.2 Cutting tools 4.3 Measuring tools 4.4 Boring tools 4.5 Forming tools **Equipment and Machineries** 4.6 Heating equipment 4.7 Soldering equipment 4.8 Press equipment 4.9 Casting equipment 4.10 Turning equipment
5. Materials	May include but not limited to: 5.1 Precious metals 5.1.1 Gold 5.1.2 Silver 5.2 Non- precious base metals 5.2.1 Copper Nickel 5.2.2 Zinc 5.2.3 Brass 5.3 Precious and/or Non- precious gemstones 5.4 Non-traditional materials for jewelry making (e.g. Leather, sea shells, woods, etc.)
6. Consumables	May include but not limited to: 6.1 Chemicals 6.1.1 Borax 6.1.2 Boric Acid 6.1.3 Potassium Nitrate 6.1.4 Alum 6.2 Supplies 6.2.1 Fuel 6.2.2 Emery paper 6.2.3 Crucibles 6.2.4 Solder

VARIABLE	RANGE
7. Material preparation	May include but not limited to: 7.1 Anneal pre-fabricated materials (e.g. tube, wires, sheets, etc.) 7.2 Test ready made components ensuring proper quality 7.3 Pre-alloyed metals: 7.3.1 Carefully check its weight, 7.3.2 Test its quality. 7.3.3 Place in crucible with sufficient flux 7.3.4 Fuse all metals into complete liquid stage for sheet preparation requirements 7.4 Pure metals 7.4.1 Compute, prepare, accomplice alloying procedure 7.5 De- oxidize metal after annealing and before and after soldering 7.6 Work area is free of other non ferrous metals to avoid contamination to materials (metals) 7.7 Exercise extreme care in handling material
8. Documentation	May include but are not limited to: 8.1 Job Order form 8.2 Work instructions and procedures 8.3 Materials and consumables used 8.4 Time and record sheets 8.5 Unused/excess materials

EVIDENCE GUIDE

1. Critical Aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Identified and established fabrication requirements for different complex and intricately designed jewelry based from predetermined specifications in accordance with organizational and client requirements 1.2 Selected and obtained tools, equipment, materials and consumables with appropriate person/s in accordance with organizational and OH&S requirements 1.3 Performed fabrication in accordance with OH&S, organizational and industry accepted methods 1.4 Fabricated items are checked for quality and to ensure construction conforms with required specifications and organizational requirements and standards 1.5 Where necessary, reworked/retouched defective items in accordance with specifications and organizational procedures 1.6 Checked finished product for quality, dimension and construction in accordance with design's specifications and organizational requirements 1.7 Notified work completion to appropriate person/s in accordance with organizational procedures 1.8 Cleaned and stored work area, tools and equipment in accordance with OHS and organizational requirements 1.9 Used personal protective equipment (PPE*)* in accordance with job requirements and OHS requirements 1.10 Demonstrated knowledge on calculation and measurements
2. Underpinning Knowledge	2.1 Philippine National Standard (PNS) on Jewelry 2.2 Types of jewelry 2.3 Properties and characteristics of metals used in jewelry 2.4 Metal preparation and fabrication techniques to suit different design requirements 2.5 Factors affecting the selection of preparation and fabrication methods 2.6 Relevant materials and consumables for ~~given~~ jewelry fabrication jobs 2.7 Procedures for checking serviceability of applicable tools and equipment 2.8 Accounting of unused/excess materials 2.9 Tools, machineries and equipment: Its specifications and usage 2.10 Safe work practices and procedures/OH&S requirements 2.11 First-aid measures

3. Underpinning Skills	3.1 Interpreting design specifications and follow instructions (oral or written) 3.2 Measurements, weighing and calculation 3.3 Selecting appropriate tools and equipment 3.4 Selecting appropriate materials and manufacturing techniques 3.5 Applying appropriate fabrication and finishing procedures 3.6 Applying safe working skills 3.7 Identifying alternative metals 3.8 Applying first-aid measures
4. Resource Implications	**The following resources should be provided:** 4.1 Materials relevant to the activity 4.2 Tools and equipment 4.3 Consumables 4.4 PPE 4.5 Workplace 4.6 Documentation 4.7 Exhaust fan 4.8 Fire extinguisher
5. Method of Assessment	Competency in this unit must be assessed through: 5.1 Direct observation with oral questioning 5.2 Demonstration with oral questioning 5.3 Portfolio (Training Certificates, Certificate of Employment, Workpiece, etc.) 5.4 Third-Party Report
6. Context of Assessment	6.1 Competency may be assessed in the workplace or in a simulated work environment (TESDA Accredited Assessment Center)

UNIT OF COMPETENCY: PERFORM STONE SETTING ACTIVITIES

UNIT CODE : DCJ731307

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes in setting gemstones of fine jewelry using varied designs of mountings to hold the stone.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Perform stone setting preparatory activities	1.1 Stone setting requirements are identified based on design ***specifications*** 1.2 Process, finish specifications, and required outcomes are confirmed and clarified as necessary with ***appropriate person(s)*** and in accordance with organizational and client's requirements 1.3 ***Materials (stones and mounting)*** are obtained, sorted out, checked and accounted for in accordance with organizational requirements and in consultation with appropriate person(s) 1.4 ***Gemstones*** are pre-arranged/laid-out in required position in ***temporary holder*** for better viewing and accounting purposes 1.5 When necessary, out of specs materials are returned or requested for replacement in accordance with organizational requirements 1.6 ***Consumables*** are identified, requested and obtained in preparation to specific process 1.7 ***Tool, machineries and equipment*** appropriate to job requirements are selected and checked for operational effectiveness in accordance with manufacturers' specifications and organizational procedures 1.8 Stone setting and ***finishing processes*** are prioritized in accordance with designated timeframes, organizational and specific fabrication requirements 1.9 Material preparation is conducted using safe operating practices and protective equipment in accordance with OHS and organizational requirements

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
2. Perform stone setting	2.1 ***Applicable setting techniques*** are performed using safe operating practices and protective equipment, and in accordance with OH&S, organizational and industry accepted methods 2.2 Stoned set is checked to ensure outcome conforms to required specifications, and quality based on organizational and industry standards 2.3 Appropriate surface finish is produced to required specifications and in accordance with organizational requirements 2.4 ***Finishing techniques*** are selected and applied prior to final cleaning and polishing requirements in accordance with manufacturers' specifications and organizational procedures
3. Perform post-stone setting activities	3.1 Finished item is submitted for final quality control and documentation in accordance with organizational requirements 3.2 Unused/excess materials are collected and stored/reclaimed in accordance with organizational requirements 3.3 Work area, tools and equipment are cleaned and stored in accordance with OH&S and organizational requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. Specifications	May include but are not limited to: 1.1 Job Order 1.2 Work instructions 1.3 Illustrations 1.4 Work samples
2. Appropriate person(s)	May include but are not limited to: 2.1 Supervisor 2.2 Client 2.3 Colleague
3. Materials (stones and mounting)	May include but are not limited to: 3.1 Mountings for gemstones setting requirements 3.2 Un-assembled jewelry part with gem requirements 3.3 Supplied gemstones for the job
4. Gemstones	May include but are not limited to: 4.1 Precious stones 4.2 Synthetic stones
5. Temporary holder	May include but are not limited to: 5.1 Bees' wax 5.2 Stone holder 5.3 Modeling clay 5.4 Single-side tape/Masking tape
6. Consumables	May include but are not limited to: 6.1 Shellac 6.2 Gravers 6.3 Drill bits and setting burs 6.4 Emery paper 6.5 Fine rubber wheels 6.6 Cleaning and buffing compounds 6.7 Kerosene/Thinner

VARIABLE	RANGE
7. Tools, machineries and equipment	May include but are not limited to: 7.1 Hand and power tools for: 7.1.1 Cutting and raising beads. 7.1.2 Hammering and pushing 7.1.3 Drilling and boring 7.1.4 Bending and twisting 7.1.5 Grinding and buffing 7.1.6 Prong lifting 7.2 Holding tools 7.3 Heating equipment 7.4 Weighing and measuring 7.5 Personal protective equipment (PPE)
8. Finishing process	May include but are not limited to: 8.1 Hand graver cutting 8.2 Hand pushing 8.3 Emery paper finishing 8.4 Fine rubber wheel finishing 8.5 Unseating mounting from holders 8.6 Washing and drying
9. Applicable setting techniques	May include but are not limited to: 9.1 Hammered 9.2 Burin method 9.3 Stone cast-in-place
10. Finishing techniques	May include but are not limited to: 10.1 Matte finish 10.2 Florentine finish 10.3 Bark finish 10.4 Stone illusion finish (Bato-bato)

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Identified stone setting requirements based on design specifications 1.2 Selected and obtained components, materials, tools, machineries and equipment appropriate to job requirements 1.3 Returned or requested for replacement out of specs in accordance with organizational requirements 1.4 Conducted material preparation using safe operating practices and protective equipment in accordance with OH&S and organizational requirements 1.5 Performed applicable setting techniques using safe operating practices and protective equipment in accordance with OH&S and organizational requirements 1.6 Checked item to ensure outcome conforms to required specifications and in accordance with organizational requirements 1.7 Submitted finished item for final quality control and documentation in accordance with organizational requirements 1.8 Work area, tools and equipment are cleaned and stored in accordance with OH&S and organizational requirements 1.9 Observed safe work practices and procedures
2. Underpinning Knowledge	2.1 Philippine National Standard (PNS) on Jewelry 2.2 Types of jewelry 2.3 Properties and characteristics of metals used in jewelry 2.4 Tools and equipment for setting a range of jewelry items/designs 2.5 Common jewelry design features, constructions and finishes 2.6 Metals, materials and consumables for given jewelry setting jobs 2.7 Properties and characteristics of applicable gemstones 2.8 Procedures for checking serviceability of applicable tools and equipment 2.9 Safe operating procedures for applicable tools and equipment 2.10 Different techniques and processes of jewelry stone setting 2.11 Accounting of unused/excess materials 2.12 Safe work practices and procedures/OH&S requirementts 2.13 First-aid measures

3. Underpinning Skills	3.1 Interpreting design specifications and follow instructions (oral or written) 3.2 Interpreting drawings 3.3 Measuring 3.4 Selection and application of appropriate tools and equipment 3.5 Selection and application of appropriate processes and setting techniques 3.6 Finishing techniques (including basic engraving skills) 3.7 Applying safe working skills 3.8 Identifying alternative process, techniques, and materials 3.9 Applying first-aid measures
4. Resource Implications	The following resources should be provided: 4.1 Materials relevant to the activity 4.2 Tools and equipment 4.3 Consumables 4.4 PPE 4.5 Workplace 4.6 Documentation 4.7 Exhaust fan 4.8 Fire extinguisher
5. Method of Assessment	Competency in this unit must be assessed through: 5.1 Direct observation with oral questioning or 5.2 Demonstration with oral questioning 5.3 Portfolio (Training Certificates, Certificate of Employment, Workpiece, etc.) 5.4 Third-Party Report
6. Context of Assessment	6.1 Competency may be assessed in the workplace or in a simulated work environment (TESDA Accredited Assessment Center)

UNIT OF COMPETENCY : PERFORM JEWELRY METAL CASTING

UNIT CODE : DCJ731308

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes in metal casting fine jewelry primarily by the "lost wax" method of investment casting.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare pre-casting operations	1.1 ***Tools, machineries, equipment, materials and consumables*** are requested and prepared in accordance with appropriate job requirements and organizational requirements 1.2 Pre-casting activities is performed in accordance with ***organizational or industry standards*** 1.3 ***Metals and alloys*** are requested and obtained from appropriate personnel 1.4 ***Personal protective equipment (PPE)*** is used in accordance with job requirements and OHS requirements
2. Perform casting operations	2.1 Requested metals and alloys are weighed out in appropriate wax-to-metal ratios 2.2 ***Protective coating/chemicals*** is applied to jewelry metal as appropriate 2.3 Burn-out flask is positioned into casting chamber in accordance with standard operating procedures 2.4 Jewelry metal is heated according to required casting temperature 2.5 Molten metal is cast in accordance with standard operating procedures (SOPs) and OH&S requirements 2.6 Cast metal is cooled and removed from the flask by quenching in water 2.7 Item is checked for quality to ensure conformance with required specifications following organizational procedures
3. Perform post-casting operations	3.1 Cast metals and leftovers are cleaned, checked and submitted to appropriate personnel for documentation 3.2 Casting flask is removed, cleaned and stored in a safe manner 3.3 Casting materials/consumables are stored as appropriate for possible metal recovery 3.4 Work area and equipment are cleaned after casting procedure is completed

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, materials and consumables	May include but are not limited to: **Tools** 1.1 Spatula 1.2 Surgical knives 1.3 Crucibles **Consumables** 1.4 Investment powder 1.5 Wax 1.6 Fluxes 1.7 Silicon spray 1.8 Cleaning agents (e.g Denatured alcohol, Debubblelizer) **Materials** 1.9 Rubber molds 1.10 Flasks **Equipment and Machineries** 1.11 Air compressor 1.12 Centrifugal casting machine 1.13 Vacuum casting machine 1.14 Electric burn out furnace 1.15 Steam de-waxer 1.16 Electric melting machine 1.17 Pressure water jet cabinet 1.18 Blow torch 1.19 Wax injector
2. Organizational or industry standards	2.1 Wax injector machine is preheated 2.2 Rubber mold is checked for dirt and imperfection/defects 2.3 Rubber mold is sprayed with silicon 2.4 Wax is injected in rubber mold 2.5 Wax pattern is attach on the wax sprue and weigh to calculate the amount of metal needed for casting 2.6 Sprue tree is mounted on a flask base and enclosed with metal flask in ***preparation for investing*** 2.6.1 Compute required water and investment powder appropriate to flask size 2.6.2 Mix investment/ water using electric mixer or spatula 2.6.3 Slurry is vacuumed and poured into the flask 2.7 Flask is invested, vacuumed, in accordance with SOPs 2.8 Preheating of furnace is carried out according to job requirements and manufacturer's specifications 2.9 Temperature of invested flask is maintained in accordance with manufacturer's specifications

VARIABLE	RANGE
3. Metals and alloys	May include but are not limited to: 3.1 Gold 3.2 Silver 3.3 Platinum
6. Personal protective equipment (PPE)	May include but are not limited to: 6.1 Heat resistant gloves 6.2 Heat resistant apron 6.3 Face shield 6.4 Safety goggles 6.5 Safety shoes (Optional)
7. Protective coating / chemicals	May include but are not limited to: 7.1 Fluxes (e.g. borax, boric acid) 7.2 Inert Gases

EVIDENCE GUIDE

1. Critical Aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Prepared for metal casting in accordance with job requirements and organizational procedures 1.2 Conducted pre-casting operations in accordance with manufacturer's specifications 1.3 Melted jewelry metal according to required casting temperature 1.4 Cast metal in accordance with standard operating procedures and OH&S requirements 1.5 Checked cast metal for quality to ensure conformance with required specifications following organizational procedures 1.6 Submitted cast metals and leftovers for documentation 1.7 Notified work completion to appropriate person/s in accordance with organizational procedures 1.8 Cleaned and stored work area, tools and equipment in accordance with OHS and organizational requirements 1.9 Used personal protective equipment (PPE) in accordance with job requirements and OHS requirements
2. Underpinning Knowledge	2.1 Philippine National Standard on Jewelry 2.2 Types of jewelry 2.3 Different Casting Techniques and procedure 2.4 Properties of metals used in jewelry 2.5 Tools, machineries, Equipment, materials/consumables preparation and operating procedures 2.6 Safe work practices and procedures/ OH&S requirements 2.7 Accounting of unused/excess materials 2.8 First aid measures
3. Underpinning Skills	3.1 Reading and interpreting routine information on written job instructions, specifications and standard operating procedures. 3.2 Identifying metals and their alloys 3.3 Weighing metals and their alloys 3.4 Setting up, checking and operating equipment 3.5 Maintaining furnace temperatures 3.6 Heating metals and alloys 3.7 Applying safe casting procedures 3.8 Working within heating timeframe constraints 3.9 Housekeeping 3.10 Applying first aid measures

4. Resource Implications	The following resources should be provided: 4.1 Materials relevant to the activity 4.2 Tools, machineries and equipment 4.3 Shop supplies 4.4 PPE 4.5 Workplace 4.6 Exhaust fan 4.7 Fire extinguisher 4.8 Documentation
5. Method of Assessment	Competency in this unit must be assessed through: 5.1 Demonstration with oral questioning 5.2 Portfolio (Training Certificates, Certificate of Employment, Workpiece, etc.) 5.3 Third-Party Report
6. Context of Assessment	6.1 Competency may be assessed in the workplace or in a simulated work environment (TESDA Accredited Assessment Center)

UNIT OF COMPETENCY: PRODUCE JEWELRY WAX MODEL

UNIT CODE : DCJ731309

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required in producing one-off wax models in simple to moderate carved forms and simple to moderate structural forms for fine jewelry.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Prepare for wax modeling activities	1.1 Wax modeling requirements are identified based on design ***specifications*** 1.2 Process and finish specifications and required outcomes are confirmed and clarified as necessary with ***appropriate person(s)*** and in accordance with organizational requirements 1.3 Wax modeling activities are established in accordance with process, verbal and written specifications, organizational requirements and personal abilities 1.4 ***Tools, machineries and equipment*** appropriate to job requirements are selected and checked for operational effectiveness in accordance with manufacturers' specifications and organizational procedures 1.5 ***Material preparation*** is conducted using safe operating practices and protective equipment in accordance with OH&S and organizational requirements
2. Produce wax models	2.1 Wax is sculpted to specifications 2.2 Sculpted wax model is checked and adjustments are made when necessary to rectify imperfections 2.3 Wax model are finished in accordance with the design requirements 2.4 Finished wax model is cast in silicon rubber mold for future reproduction (optional)
3. Perform post-wax modeling activities	3.1 Finished item is submitted for final quality control and documentation in accordance with organizational requirements 3.2 Unused/excess materials are collected and stored/reclaimed in accordance with organizational requirements 3.3 Work area, tools and equipment are cleaned and stored in accordance with OH&S and organizational requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. Specifications	May include but are not limited to: 1.1 Job Order 1.2 Work instructions 1.3 Illustrations 1.4 Work samples
2. Appropriate person(s)	May include but are not limited to: 2.1 Designer 2.2 Supervisor
3. Tools, machineries and equipment	May include but are not limited to: **3.1 Electric and hand held tools** 3.1.1 Wax pen/soldering iron 3.1.2 Wax guns 3.1.3 Saws 3.1.4 Carving tools 3.1.5 Wax files 3.1.6 Flaming/Blow torch 3.1.7 Wax carving burs 3.1.8 Miter box 3.2 Ring tube reamer 3.3 Wax ring mandrel 3.4 Wax detailer 3.5 Wax shaper 3.6 Wax trimmer **3.2 Equipment and machineries** 3.2.1 Mini lathe 3.2.2 Flexible shafts with the following accessories 3.2.2.1 wax trimmer 3.2.2.2 wax gun kit 3.2.2.3 wax shaper 3.2.3 Electric wax pot 3.2.4 Wax welder with pen & 12 tips
4. Material preparation	4.1 Appropriate waxes are selected, requested and obtained in accordance with organizational requirements 4.2 Wax material is cut

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Identified wax modeling requirements based on design specifications 1.2 Selected and checked tools, machineries and equipment appropriate to job requirements 1.3 Conducted material preparation using safe operating practices and protective equipment in accordance with OH&S and organizational requirements 1.4 Produced wax models in accordance with design requirements 1.5 Submitted finished item for final quality control and documentation in accordance with organizational requirements 1.6 Notified work completion to appropriate person/s in accordance with organizational procedures 1.7 Cleaned and stored work area, tools and equipment in accordance with OHS and organizational requirements 1.8 Used personal protective equipment (PPE) in accordance with job requirements and OHS requirements
2. Underpinning Knowledge	2.1 Philippine National Standard (PNS) on jewelry 2.2 Types of jewelry 2.3 Properties of waxes 2.4 Wax modeling techniques and procedures 2.5 Factors affecting construction of wax model, including type of wax, hand tools, method of construction, final finish, weight of finished product 2.6 Tools and equipment for wax modeling 2.7 Design specifications 2.8 Product Evaluation (Wax to metal ratio) 2.9 Effects of casting shrinkage and finishing processes 2.10 Safe work practices and procedures/OH&S requirements 2.11 First-aid measures 2.12 Accounting of unused/excess materials

3. Underpinning Skills	3.1 Clarifying design specifications 3.2 Handling wax modeling tools 3.3 Using protective safety equipment 3.4 Reading and interpreting routine information on written job instructions, specifications and standard operating procedures 3.5 Using measurement skills 3.6 Planning, sequencing operations 3.8 Evaluating product 3.7 Applying first-aid measures
4. Resource Implications	**The following resources should be provided:** 4.1 Materials relevant to the activity 4.2 Tools and equipment 4.3 PPE 4.4 Appropriately illuminated and ventilated workplace 4.5 Fire extinguisher 4.6 Exhaust fan 4.7 Documentation
5. Method of Assessment	**Competency in this unit may be assessed through:** 5.1 Direct observation with oral questioning 5.2 Demonstration with oral questioning 5.3 Portfolio (Training Certificates, Certificate of Employment, Workpiece, etc.) 5.4 Third-Party Report
6. Context of Assessment	6.1 Competency may be assessed in the workplace or in a simulated work environment (TESDA Accredited Assessment Center)

UNIT OF COMPETENCY: ENGRAVE JEWELRY

UNIT CODE : DCJ731310

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to engrave designs in fine jewelry using hand and power tools.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables
1. Perform engraving preparatory activities	1.1 Engraving jewelry requirements are identified from client's drawings and specifications 1.2 ***Materials, tools and equipment*** are selected and prepared to carry out tasks consistent with job requirements in accordance with workplace procedures and OHS procedures 1.3 When necessary, out of specifications jewelry items are returned or requested for replacement in accordance with organizational requirements 1.4 ***Engraving method*** is selected depending on job specification and type of jewelry
2. Perform engraving	2.1 Patterns are outlined, pierced and carved on the jewelry and checked if details are properly transferred 2.2 Design is inspected as to its proportion to the size and shape of the jewelry 2.3 ***Designs*** are engraved on the jewelry in accordance with job specification and organizational requirements 2.4 Measures are undertaken to correct minor engraving omissions and errors 2.5 Tools and equipment for engraving are used suitably in accordance with job specification 2.6 ***Output*** is checked to ensure it conforms to required specifications, quality and other engraving procedure
3. Perform post-engraving activities	3.1 Finished item is submitted for final quality control and documentation in accordance with organizational requirements 3.2 Unused/excess materials are collected and stored/reclaimed in accordance with organizational requirements 3.3 Work area, tools and equipment are cleaned and stored in accordance with OHS and organizational requirements

RANGE OF VARIABLES

VARIABLE	RANGE
1. Materials, tools and equipment	May include but not limited to: **Materials** 1.1 Gravers 1.2 Metal sheets 1.3 Carbons/stencils 1.4 White poster color 1.5 Correction fluid 1.6 Semi-finished jewelry **Tools** 1.7 Hand engraving tools 1.8 Files 1.9 Hammer 1.10 Oil stone 1.11 Magnifying lens **Equipment** 1.12 Power graver set 1.13 Ultrasonic machine
2. Engraving Method	2.1 Hand engraving on hard metals 2.2 Hand engraving on soft metals 2.3 Engraving using pantograph 2.4 Hand piercing and engraving 2.5 Line engraving
3. Designs	3.1 Figures 3.2 Letters 3.3 Shapes 3.4 Characters/Symbols
4. Output	May include but not limited to: 4.1 Rings 4.2 Bracelets 4.3 Lockets 4.4 Earrings

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Identified job requirements based from client's drawings and specifications 1.2 Selected and prepared materials, tools and equipment in engraving jewelry in accordance with client and design specifications 1.3 Identified and selected appropriate methods of engraving jewelry depending on job specifications and type of jewelry 1.4 Engraved design on jewelry in accordance with job specifications and organizational requirements 1.5 Checked output to ensure conformity to required specifications, quality and other engraving procedures 1.6 Submitted finished item for final quality control and documentation in accordance with organizational requirements 1.7 Notified work completion to appropriate person/s in accordance with organizational procedures 1.8 Cleaned and stored work area, tools and equipment in accordance with OH&S and organizational requirements 1.9 Used personal protective equipment (PPE*)* in accordance with job requirements and OHS requirements
2. Underpinning Knowledge	2.1 Philippine National Standard (PNS) on Jewelry 2.2 Types of jewelry 2.3 Properties of metals used in Jewelry 2.4 Engraving methods and styles 2.5 Design transfer 2.6 Types and uses of engraving tools and equipment 2.7 Health and safety precautions 2.8 First-aid measures 2.9 Accounting of unused/excess materials
3. Underpinning Skills	3.1 Reading and interpreting routine information on written job instructions, specifications and standard operating procedures 3.2 Identifying and selecting of appropriate tools, equipment, materials, accessories and aids. 3.3 Transferring of design to jewelry before engraving 3.4 Performing of engraving methods to jewelry 3.5 Techniques in correcting minor engraving omissions or errors 3.6 Examining finished work 3.7 Using precision measuring instruments (i.e. calipers, micrometers) 3.8 Tools sharpening skills 3.9 Handling engraving tools 3.10 Applying first-aid measures 3.11 Observing OH&S procedures

4. Resource Implications	**The following resources should be provided:** 4.1 Tools, equipment and materials relevant to the activity 4.2 PPE 4.3 Consumables 4.4 Work place 4.5 Exhaust fan 4.6 Fire extinguisher 4.7 Documentation
5. Method of Assessment	**Competency in this unit may be assessed through:** 5.1 Direct observation with oral questioning or 5.2 Demonstration with oral questioning 5.3 Portfolio (Training Certificates, Certificate of Employment, Workpiece, etc.) 5.4 Third-Party Report
6. Context of Assessment	6.1 Competency may be assessed in the workplace or in a simulated work environment (TESDA Accredited Assessment Center)

SECTION 3 TRAINING STANDARDS

3.1 CURRICULUM DESIGN

Course Title: JEWELRY MAKING **NC Level: III**

Nominal Training Duration: 20 Hrs. (Basic Competencies)
24 Hrs. (Common Competencies)
1,920 Hrs. (Core Competencies)

Course Description:

This course is designed to provide knowledge, skills, and attitude along Jewelry Making NC III in accordance with industry standards. It covers the basic, common and core competencies on mensurations and calculations, managing own performance, application of first-aid, application of quality and safety standards, fabricating multi-parts, complex and intricately designed jewelry, stone-setting, metal casting, producing wax model and engraving jewelry.

To obtain this, all units prescribed for this qualification must be achieved.

BASIC COMPETENCIES
(20 Hours)

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Lead workplace communication	1.1 Communicate information about workplace processes 1.2 Lead workplace discussions 1.3 Identify and communicate issues arising in the workplace	• Group discussion • Interaction • Lecture • Reportorial	• Written test • Practical/ performance test • Interview
2. Lead small teams	2.1 Provide team leadership 2.2 Assign responsibilities among members 2.3 Set performance expectation for team members 2.4 Supervise team performance	• Group discussion/ interaction • Case studies • Simulation	• Written test • Observation • Simulation • Role playing

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
3. Develop and practice negotiation skills	3.1 Identify relevant information in planning negotiations 3.2 Participate in negotiations 3.3 Document areas for agreement	• Interactive – lecture • Simulation • Demonstration • Self-paced learning • Group Discussion • Structured activity	• Role play • Interview • Written examination
4. Solve workplace problem related to work activities	4.1 Explain the analytical techniques 4.2 Identify the problem. 4.3 Determine the possible cause/s of the problem	• Interactive – lecture • Simulation • Symposium • Group dynamics • Film Viewing • Situation analysis • Self-paced learning	• Situation analysis • Interview • Practical examination • Written examination • Simulation
5. Use mathematical concepts and techniques	5.1 Explain the analytical techniques 5.2 Identify mathematical tools and techniques to solve problem 5.3 Apply mathematical procedures/ solution 5.4 Analyze results	• Lecturette • Self-paced learning • Group discussion • Practical work approach • Research study	• Written test • Demonstration • Oral Interview
6. Use relevant technologies	6.1 Identify appropriate technology 6.2 Apply relevant technology 6.3 Maintain/ enhance relevant technology	• Lecturette • Self-paced learning • Group discussion • Film showing	• Written test • Interview

COMMON COMPETENCIES
(24Hours)

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Observe procedures specifications and manuals of instructions	1.1 Identify, access and interpret specification/manuals 1.2 Apply information in manual 1.3 Store manuals	• Classroom discussions/ Lecture • Self-paced learning • Demonstration	• Practical examination • Oral Examination • Written test/ questioning • Direct observation
2. Perform mensurations and calculations	2.1 Select measuring instruments 2.2 Carry out measurements and calculations	• Lecture/ demonstration • Group Discussion • Self-paced learning	• Oral questioning • Written Test • Direct observation • Demonstration
3. Manage own performance	3.1 Plan own workload 3.2 Maintain quality of own performance 3.3 Establish credibility with customers/clients	• Lecture • Group Discussion • Role play	• Demonstration with questioning • Interviews • Written report
4. Applying quality standards	4.1 Assess quality of received materials or components 4.2 Assess own work 4.3 Engage in process improvement	• Lecture • Discussion • Hands-on • Role-Play	• Interview • Written report
5. Apply basic first aid	5.1 Assess the situation 5.2 Apply basic first aid techniques 5.3 Communicate details of the incident	• Lecture • Demonstration • Role-Play • Group Discussion	• Oral Test • Group Role-Play • Interview

CORE COMPETENCIES
(1,920 Hours)

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Fabricate multi-parts jewelry	1.1 Prepare requirements for fabrication 1.2 Perform fabrication 1.3 Perform post-fabrication activities	• Lecture • Demonstration / Film viewing • Self-paced learning	• Interview • Direct observation • Demonstration • Written examination
2. Fabricate complex and intricately designed jewelry	2.1 Prepare requirements for fabrication 2.2 Perform fabrication 2.3 Perform post-fabrication activities	• Lecture • Demonstration/ Film viewing • Self-paced learning	• Interview • Written • Practical • Direct observation
3. Perform stone setting activities	3.1 Perform stone setting preparatory activities 3.2 Perform stone setting 3.3 Perform post-stone setting activities	• Lecture • Demonstration / Film viewing • Self-paced learning/ modular • E-learning	• Interview • Direct observation • Demonstration • Written examination
4. Perform jewelry metal casting	4.1 Prepare pre- casting operation 4.2 Perform casting operations 4.3 Perform post-casting operations	• Lecture • Demonstration/ Film viewing • Modular	• Interview • Written • Practical • Direct observation
5. Produce jewelry wax model	5.1 Prepare for wax modeling activities 5.2 Produce wax models 5.3 Perform post wax modeling activities	• Lecture • Demonstration/ Film viewing • Modular	• Interview • Written • Practical • Direct observation

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
6. Engrave jewelry	6.1 Perform engraving preparatory activities 6.2 Perform engraving 6.3 Perform post-engraving activities	• Lecture • Demonstration/ Film viewing • Modular	• Interview • Written • Practical • Direct observation

* **For the Core Competencies,** the training provider may choose to include practicum or on-the-job training as a training methodology.

3.2 TRAINING DELIVERY

The delivery of training should adhere to the design of the curriculum. Delivery should be guided by the 10 basic principles of competency-based TVET.

- The training is based on curriculum developed from the competency standards;
- Learning is modular in its structure;
- Training delivery is individualized and self-paced;
- Training is based on work that must be performed;
- Training materials are directly related to the competency standards and the curriculum modules;
- Assessment is based in the collection of evidence of the performance of work to the industry required standard;
- Training is based both on and off-the-job components;
- Allows for recognition of prior learning (RPL) or current competencies;
- Training allows for multiple entry and exit; and
- Approved training programs are Nationally Accredited

The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs:

- The dual mode of training delivery is preferred and recommended. Thus programs would contain both in-school and in-industry training or fieldwork components. Details can be referred to and conform with the Dual Training System (DTS) Implementing Rules and Regulations.

- Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer just facilitates the training delivery.

- Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners.

- Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire specific competencies prescribed in the training regulations.

- Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video or computer technologies.

3.3 TRAINEE ENTRY REQUIREMENTS

Trainees or students wishing to gain entry into this course should possess the following requirements:

- Must be able to communicate basic English both oral and written
- Must be with good moral character
- Must be physically and mentally fit

This list does not include specific institutional requirements such as educational attainment, minimum age, and others that may be required of the trainees by the school or training center delivering the TVET program.

3.4 LIST OF TOOLS, EQUIPMENT AND MATERIALS

Recommended list of tools, equipment and materials for the training of 25 trainees for Jewelry Making NC III:

TOOLS		EQUIPMENT		MATERIALS	
Qty.	Description	Qty.	Description	Qty.	Description
25 sets	Jeweler's saw	25sets	Jewelers Work bench set	2.5 k	Alloyed metal Solders
25 pcs	Light hammer				
25 pcs	Jeweler's Steel block	5 pcs	Combination	7k	Borax
25 pcs	Stainless steel scoop/shovel		Rolling mill	6 k	Boric Acid(Borico)
		5 pcs	Round hole draw plate	2 k	Saltpeter (Salitre)
25 pcs	Brush paint 3"				
25 pcs	Long nose plier	5 pcs	Triangle draw plate	2 k	Plaster of paris (Escayola)
25 pcs	Flat nose plier				
25 pcs	Round nose plier	5 pcs	Half round draw plate	25 pcs	Sand paper grit #280
25 pcs	Rounding plier				
25 pcs	Needle file set w/ handle	5 pcs	Square draw plate	25 pcs	Sand paper grit #300
25 pcs	Half round file w/ handle	5 pcs	Steel draw bench	25 pcs	Sand paper grit #400
25 pcs	Knife edge file w/ handle	5 pcs	Draw tong	25 pcs	Sand paper grit #600
		10 pcs	Anvil		
25 pcs	Divider Compass	25 pcs	Steel channel	25 pcs	Sand paper grit #800
25 pcs	Stainless steel boiling pan	25 pcs	Dapping die and tools set	1/2 kl	Copper wire
25 pcs	Soldering tweezer	5 sets	Melting equipment (double torch ,gas tank,foot pump,rubber hose)	1 gal	Gasoline
25 pcs	Self locking tweezer			50 pcs	Bees wax Sheet
25 pcs	Straight snip			25 ltrs	Nitric acid
25 sets	Ruler			12 pcs	Graphite stirring rod
25 sets	Caliper				
25 pcs	Solder pick			25 pcs	Heat resistant gloves
25 sets	Soldering tool set (single torch,gas tank,foot pump,rubber hose)	1 unit	Air Compressor with 1 ½ horsepower	100 pcs	
				25 pcs	Clay crucibles
				25 pcs	Silicone points
		5 pcs	Melting table w/ stainless tray	25 pcs	Silicone disc
25 pcs	Soldering brick			25 pcs	Rubber disc
25 pcs	Protractor			10 pcs	Brass hand brush
5 pcs	Wire gauge	25 pcs	Stainless steel pot w/ pickling solution (#304)	10 gal	Pickling solution
5 pcs	Bangle gauge			25 pcs	Lighter
5 pcs	Plastic hammer			25 pcs	Mesh heating screen
5 pcs	Bench Vises	2 pcs	Bench grinder		
25 pcs	Magnet	3pcs	Steam cleaner	5 liters	Denatured alcohol
25 pcs	Ring bending plier	2 pcs	Vertical drilling machine		
25 pcs	Soldering clamp			25 set per size (0-6)	Jewelers blade
25 pcs	Mini degree gauge	3pcs	Table balance		
25 pcs	Millimeter gauge				

25 pcs	Bezel mandrel	3 pcs	Centrifugal casting machine	25pcs	Drill bits (#15
25 pcs	Bezel blocks & punches (oval,round,rectangle & emerald)	3 sets	Vacuum casting machine/vacu-cast	25 pcs 25 pcs	Accounting forms/logbook Ballpen Pencil
25 pcs	Side cutter	3 pcs	Electric burn out furnace	27.5 kgs 15 ltrs	Alloyed metal
25 pcs	Nipper			5drums	Debubblelizer
25 pcs	Saw frames	3pcs	Steam de-waxer		Investment powder(100lbs/drum)
25 pcs	Angle rule	3 pcs	Electric investment mixer		
25 pcs	Scriber			2 pcs	Gas cylinder (50 kgs)
5 sets	Center punch	3 pcs	Electric melting machine		Masking tape 3”
5 sets	Screw plate & taps			5 rolls 5 kgs	Alum (tawas)
10 pcs	Ball hammer	3 pcs	Pressure water jet cabinet	25 bxs 25 bxs	Carving wax block
25 pcs	Steel mandrel			25 pcs	Carving wax slice
25 pcs	Ring size stick	25 sets	Flexible shaft machine w/ the ff accessories: wax trimmer, wax gun kit, & wax shaper		Bracelet carving wax
25 pc	Hand drills (#18)			25 pcs	Bar carving wax
5 pcs	Cutting shear			10 bxs	Inlay wax
5 pcs	Horn anvil			10 bxs	Sheet wax
25 sets	Ring sizer			25 pcs	Wax wire spool
5 pcs	Beakers (500ml)			25pcks	½ round wax wire
5 pcs	Beakers (100ml)	5 pcs	Electric Wax pot	25pcks	Triangle/prong wax wire
25 pcs @ shape of drill	Assorted drills and burrs (round,pointed,cylinder & twist drills)	25 pcs	Wax welder w/ pen & 12 tips	25 bxs	Wax ring tube (round)
		25 pcs	Power graver	25 bxs	Wax ring tube flat top
5pcs	Bangle mandrel	5 pcs	Ultra sonic machine	25 bxs	Wax ring tube(off-center)
5 pcs	Ingot Mold Block			25 pks	Wax saw blade(fine)
5 pcs	Crucible Tong	25 pcs	Power graver set	25 pks	Wax saw blade(medium)
5 pcs	Clear safety goggles	5 pcs	Ultra sonic machine	25 pks	Wax saw blade(coarse)
5 pcs	Dark safety goggles			5 kgs 25 tubes	Plaster of paris
25 pcs	Eye loupe				Paste/glue
25 pcs	Burnisher (steel or agate)				
25 pcs	Alcohol lamp				
25 pcs	Pencil Sharpener				

TOOLS		EQUIPMENT		MATERIALS	
			Description	Qty.	Description
5 pcs 25 pcs 25 pcs 5 pairs 5 pcs 25 pcs 5 pcs 25 pcs 5 pcs 5 pcs 25 pcs 25 pcs 25 pcs 5 pcs 5 pcs 5 pcs 5 pcs 25 pcs	Casting tong Perforated flask Casting flask Heat resistant gloves Heat resistant apron Universal sprue vase Weighing scale Carbon glass stirrer Long reach tweezer Clear safety goggles Dark safety goggles Rubber sleeve for perforated flask Rubber flask sleeve Spatula Graduated cylinder Stirring rod Stainless steel pan 6”x4” diameter Steel brush Crimped brush			27.5 kgs 125 sets 125 plates 1000 pcs 250 pcs 125 pcs 125 pcs 125 pcs 4 ltrs 8 ltrs 1 ltr 75 pcs 50 pcs 25 pcs	Shellac (saheng) Jewelry practice set • Ring/earring • Plate • Synthetic stones Saw blade Bees wax Sheet wax Silicone wheel points Shellac remover (thinner/kerosene) Ultra sonic solution Oil Emery polishing stick Talcum powder bag Talcum powder (25g)

TOOLS		EQUIPMENT		MATERIALS	
			Description	Qty.	Description
25 pcs	Wax trimmer			50 shts	Brass practice sheet
25 pcs	Wax gun kit				
25 pcs	Wax shaper			25 pcs	Engraving design
25 pcs	Wax miter box w/ saw			25 canister	Poster color (white)25ml
25 pcs	Wax centering tool			3ltrs	Lacquer spray
25 pcs	Wax tube reamer				
25 sets	Wax ring mandrel			50 pcs	Rubber wheel points
25 pcs	Jewelry design template			25 pcs	Hand brush (nylon bristle)
25 sets	Saw frames			25 pcs	Point brush 3’
25 pcs	Wax spatula			25 pcs	Quill brush
25 sets	Wax carving set				
25 pcs	Wax burrs			25 sheets	Tracing Paper
25 pcs	Alcohol lamp				
25 pcs	Vernier caliper			25 pcs	Intricately Designed Rings/Earrings
25 pcs	Degree gauge				
25 pcs	Spring divider				
25 pcs	Magnifying glass				
25 pcs	Hand brush”1			25pcs	Multiple Part Jewelry
25 pcs	Flat edge graver w/ handle #41(5.5cm)				
25 pcs	Flat edge graver #42 w/ handle (5.5cm)				
25 pcs	Oil stone				
25 pcs	Wax detailer				
25 pcs	Aluminum ring size stick				
25 pcs	Bracelet/bangle gauge				
25 pcs	Shovel				

TOOLS		EQUIPMENT		MATERIALS	
Qty.	Description	Qty.	Description	Qty.	Description
25 pcs	Work table set				
25 pcs	Bench pin				
25 pcs	Engraver's block set				
25 pcs	Ring clamp				
25 pcs	Flat file				
25 pcs	Needle file set				
25 pcs	Tungsten carbide hammering bit				
25 pcs	Opening plier				
25 pcs	Closing plier				
25 pcs	Bench torch				
25 pcs	Chasing hammer				
25 pcs	Side cutter				
25 pcs	Tweezers				
25 pcs	Pin vise				
25 pcs	Center punch				
	Drill bit set				
	Steel burns				
25 pcs	• seating burrs				
25 pcs	• hart burrs				
25 pcs	• cup burrs				
25 pcs	• round burrs				
25 pcs	• cone burrs				
25 pcs	• oval burrs				
25 pcs	• Krause burrs				
25 pcs	• Bud burrs				
25 pcs	Knife gravers				
25 pcs	Beading tool set				
	Beading block				
25 pcs	• Concave				
25 pcs	• Convex				
25 pcs	Prong pusher/lifter				
25 pcs	Scraper w/ holder				

25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25pcs 25pcs 25pcs 25pcs 25 pcs	Spring divider Mm gauge Moe gauge Stone gauge Bezel roller Magnifier Stone shovel Inside ring clamp Oil stone Nylon hand brush Millgrain wheel w/ handle Cement stick Handrill				
25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs 25 pcs	Engraving table set Torch set Graver set w/ holder • Flat edge graver • Round edge • Onglette edge graver • Bevel edge graver Spring divider Vernier caliper Double end scriber Eye loupe Magnifier Beading tool block Tungsten hammering tip Diamond hammering tip Graver sharpening holder Peg clamp Pitch bowl Diamond burr set				

3.5 TRAINING FACILITIES

Based on class size of 25 students/trainees the space requirements for the teaching/learning and circulation areas are as follows:

TEACHING/LEARNING AREAS	SIZE IN METERS	AREA IN SQ. METERS	QTY	TOTAL AREA IN SQ. METERS
Lecture Area **NOTE:** Facilities/ Equipment/ Circulation Area is also Lecture Area.				
Learning Resource Area	6mX8m	48 sq. meters		48 sq. meters
Tool Room/ Storage Area	6mX7m	42 sq. meters		42 sq. meters
Wash, Toilet & Locker Room	5mX7m	35 sq. meters		35 sq. meters
Total				*125 sq.meters*
Facilities/Equipment/ Circulation	12mX10m	65sq.m/trainee	15	*120 sq.meters*
Total Area				***245 sq.meters***

***** Area requirement is equivalent to 30% of the total teaching/learning areas***

3.6 TRAINERS QUALIFICATIONS FOR JEWELRY MAKING NC III

TRAINER QUALIFICATION

- Must have completed Trainer's Methodology Course
- Must be a holder of Jewelry Making (Fine Jewelry) NC III
- Must be able to communicate effectively both orally and in written form
- Must be physically, emotionally, psychologically and mentally fit
- Must possess good moral character
- Must have at least five (5) years work experience

Reference: TESDA Board Resolution No. 2004-03

3.7 INSTITUTIONAL ASSESSMENT

Institutional Assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency.

SECTION 4 NATIONAL ASSESSMENT AND CERTIFICATION ARRANGEMENTS

4.1 To attain the National Qualification of **JEWELRY MAKING NC III**, the candidate must demonstrate the competence in all the units listed in Section 1. Successful candidate shall be awarded a National Certificate signed by the TESDA Director General.

4.2 Individuals aspiring to be awarded the qualification of **JEWELRY MAKING NC III** must acquire Certificates of Competency in all of the following group or individual core units of the Qualification. Candidates may apply for assessment in any accredited assessment center.

4.2.1 Fabricating complicated jewelry
- 4.2.1.1 Fabricate multi-parts jewelry
- 4.2.1.2 Fabricate complex and intricately designed jewelry

4.2.2 Perform stone setting activities
4.2.3 Perform jewelry metal casting
4.2.4 Produce jewelry wax model
4.2.5 Engrave jewelry

Successful candidates shall be awarded Certificates of Competency (COCs).

4.3 Upon accumulation and submission of all COCs acquired for the above units of competency comprising this qualification, an individual shall be issued the corresponding National Certificate.

4.4 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.

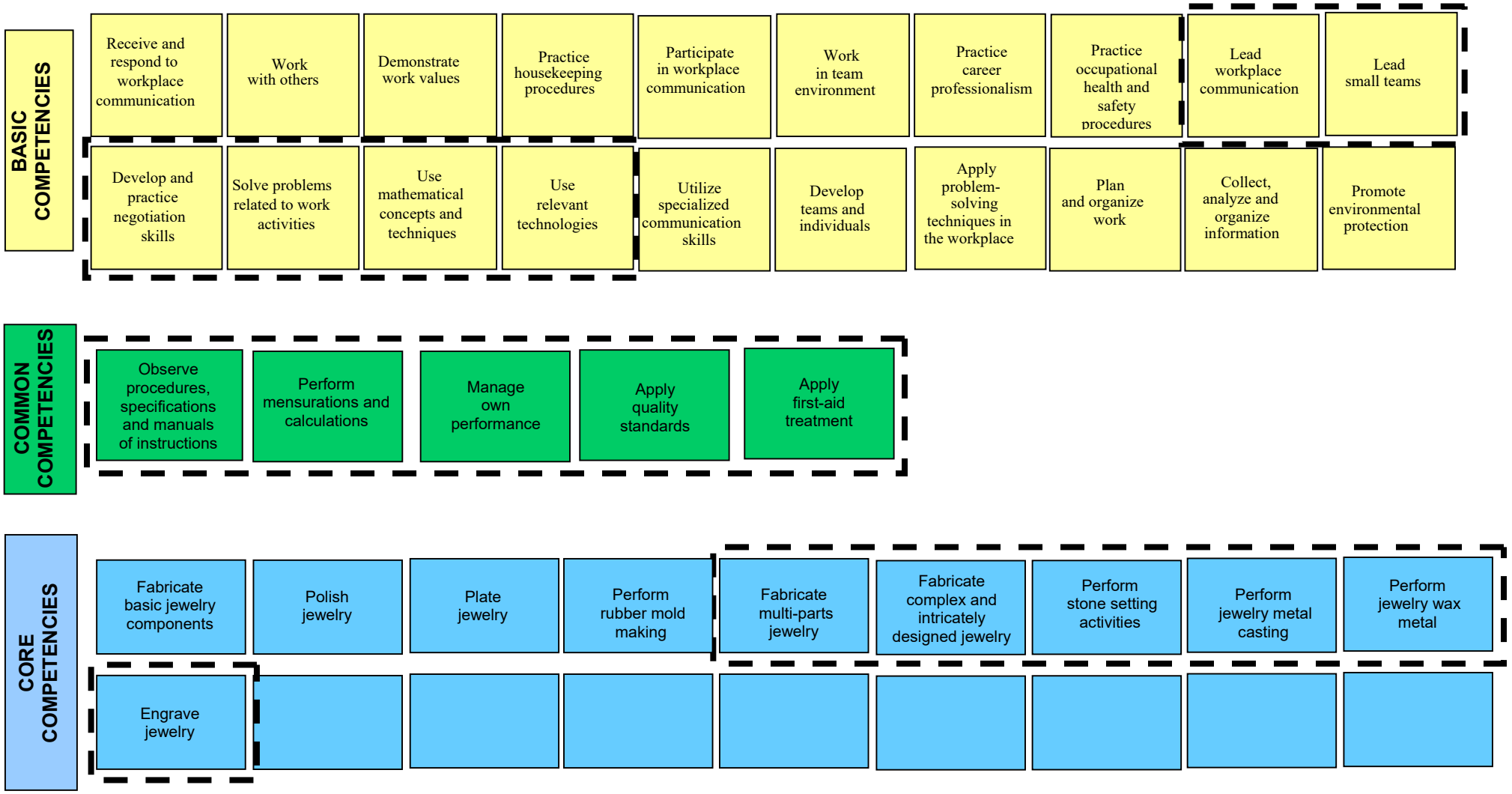
4.5 The following are qualified to apply for assessment and certification:

4.5.1 Graduates of formal, and non-formal including enterprise-based training programs

4.5.2 Experienced Workers (wage employed or self-employed)

4.6 The guidelines on assessment and certification are discussed in detail in the "*Procedures Manual on Assessment and Certification*" and "*Guidelines on the Implementation of the Philippine TVET Qualification and Certification System (PTQCS)*".

COMPETENCY MAP
DECORATIVE CRAFTS SECTOR
JEWELRY MAKING NC III



GLOSSARY OF TERMS

Alloy	Combination of homogenized metals. Base metal mixed with precious ore to make it workable, harden it, or change its color
Annealing metal	Is a heat process whereby a metal is heated to a specific temperature/color and then allowed to cool slowly. This softens the metal which means it can be cut and shaped more easily.
Antiquing	Process of darkening recessed areas of to enhance the visibility of engraving
Assay	Process of establishing purity of gold, silver and other alloys
Bail	Connector at the top of a pendant. Enables pendant to hang from a chain or jumpring.
Basse-taille (bass-tie)	Technique of applying glass enamel to a metal surface that has been engraved deeply enough to hold the enamel when heated and has sides high enough to keep the enamel colors separate.
Bezel setting	The oldest and most basic gemstone setting, derived from the French word “Biseau” meaning chamfered. A collar style setting for a gemstone that offers more protection of softer or delicate minerals such as opal.
Carre Setting	Is where the stone is seated directly over a light well, and the stone is set by raising (hammering) four “spurs” with a “graver” tool.
Carat	Carat is a number from 1 to 24 that designates the percentage of pure gold in a sample of gold alloy. 24 carat represents pure gold. 18 carat indicates that 18/24 % or 75% of that sample is pure gold and the remainder is made up of metals other than gold
Casting	Method of shaping metal by melting and pouring into hollow molds. Less dense than wrought metals and requires additional polishing and finishing
Channel setting	Are primarily used to set faceted gemstones that are straight-sided, or quadrilateral in shape (baguette or princess cut)
Electro-plating	Electro chemical process of applying one metal to the surface of another.
Engraving	Process of decorating metal by gouging a design into its surface
Gold Plating	Is a method of depositing a thin layer of gold on the surface of other metal, most often copper or silver. It is often used in electronics, to provide a corrosion-resistant electrically conductive layer on copper, typically in electrical connectors and printed circuit boards.

Harden	Hardening is the process of making a jewelry component more stiff and permanent. This can be accomplished in a variety of ways including hammering and work hardening.
Invisible setting	Setting style where rows of square cut gemstones rest flush edge to edge; all within a metal border or frame, with no metal separating individual gems
Jewelry Wire	Jewelry wire is soft wire used to make jewelry. Jewelry wire can be brass, copper, gold, sterling silver, fine silver, gold-filled and/or gold and silver plated wire.
Jig	A jig is a jewelry-making tool with a series of pegs used to form or shape wire. The most popular brand of jigs is the WigJig brand.
Mounting	Device that holds a gem in place
Oxidation	Chemical process to blacken or tarnish. Sulphur and oxygen is used on silver.
Pave setting	Is a tight grouping of identically sized stones laid across a flat, or convex surface, from the French word for “paved.” The stones are held in place using three to six raised beads per stone.
Plating	Is a surface covering in which a metal is deposited on a conductive surface. Plating is used to decorate objects, for corrosion inhibition, to improve solderability, to harden, to improve wearability, to reduce friction, to improve paint adhesion, to alter conductivity, for radiation shielding, and for other purposes. Jewelry typically uses plating to give a silver or gold finish.
Polishing	Polishing is the process of smoothing the surface of an object. With jewelry wire polishing results in a shiny appearance and can remove minor tool marks or blemishes. Frequently polishing involves using a mildly abrasive polishing compound to remove a thin layer of material.
Prong setting	The most common variety for faceted gemstones is a prong setting, with either 3 or 4 prongs that hold the stone in place. This type of setting exposes the maximum amount of light to the sides and bottom (pavilion).
Precious metal	Metals valued for their color, malleability, and rarity; gold, silver and platinum
Quenching	Quenching is a process for heat treating metals to change its hardness. This process involves heating the metal to a high temperature and then rapidly cooling it by dipping it in a liquid bath made of oil or water.

Rhodium	Is a sheen of white metal. It is the rarest of all non-radioactive metals on Earth. The most expensive metal and the best in resistance to corrosion and tarnish under most environmental condition.
Setting	Method by which a stone is held into a mounting.
Soldering	Technique used in making and repairing jewelry whereby two pieces of metal are joined when a molten metal with a lower melting point than the two metals being joined is used.
Stamping	Using a die set to cut or emboss metal with a mark
Tiffany setting	Usually round and elevated setting with six long slender prongs that flare from the base. Commonly used for large stones such as diamond soliitaires
Tin	A malleable semi-precious silvery metal that resists oxidation. Malleable at ordinary temperatures, but brittle when heated, tin acts as an agent in numerous alloys
Vise	A vise is a tool used for gripping and holding components very securely. Vises are often fastened to a table or other sturdy base.
White gold	Gold alloy made of nickel; sometimes contains palladium or zinc

ACKNOWLEDGEMENTS

The Technical Education and Skills Development Authority (TESDA) wishes to extend thanks and appreciation to the many representatives of business, industry, academe and government agencies who devoted their time and expertise in the development and validation of these Training Regulations.

TECHNICAL EXPERTS:

MS. CECILIA R. RAMOS
Chairman
Meycauayan Jewelry Industry Association, Inc. (MJIA)
Philippine Jewelry Center
Pandayan, Meycauayan, Bulacan

MR. MIGUEL M. RODRIGUEZ
Manager
Miersons' Jewelry
680 L. Sarno, Calvario, Meycauayan, Bulacan

MR. ANGELINO V. GABON
Hans Brumann, Inc.
134 Ground Floor, Legaspi Street
Legaspi Village, Makati City

MR. RUFINO L. RAMOS
Proprietor
Leah's Jewelry
Gen. Luna, Malabon City

MS. RHODORA PATRICIA C. TORRECAMPO
Technician Education Specialist III
Cottage Industry Technology Center (CITC)
20 Russet St., SSS Village, Marikina City

MS. MA. LUISA D. UNSON
President
Philippine Jewelry Business Club Foundation, Inc.
1903 B West Tower (Tektite Bldg.),
Philippine Stock Exchange
Exchange Road, Ortigas Center, Pasig City

MR. PETER A. ZUNIGA
President
Confederation of Philippine Jewelers, Inc.
Philippine Jewelry Center
Malhacan, Meycauayan, Bulacan

MR. PEEWEE R. GARCIA
Production Manager
Ikthos
2436 Taal St., Malate, Manila

MS. SHIELA CLAVEL-TEJADA
Consultant
Philippine Jewelry Business Club Foundation, Inc.
1903 B West Tower (Tektite Bldg.),
Philippine Stock Exchange
Exchange Road, Ortigas Center, Pasig City

MS. INGRID M. JAVALERA
Sr. Trade and Industry Dev't. Specialist
Bureau of Export Trade Promotion
2nd Floor, Dept. of Trade and Industry
DTI Int'l. Bldg., 375 Sen. Gil J. Puyat Ave., Makati City

The Participants in the Validation of this Training Regulation

- Members of the Cebu Fame Foundation Philippines, Inc.
- Members of the Mindanao United Jewelry Association, Inc.

The Members of the TESDA Board

The MANAGEMENT and Staff of the TESDA Secretariat

- Qualifications and Standards Office (QSO)