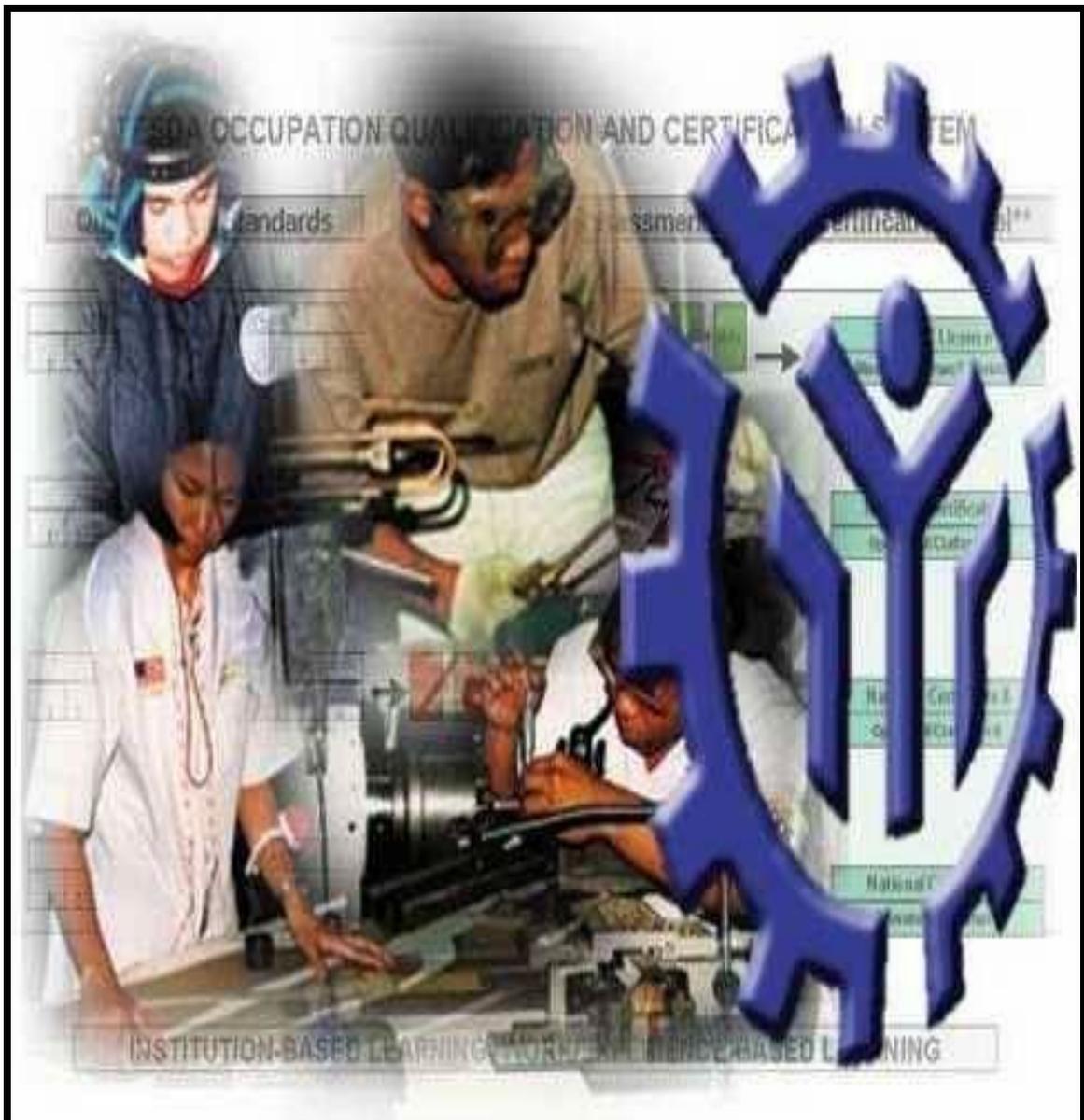


# TRAINING REGULATIONS

## DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures/Restorations) NC II



**HEALTH, SOCIAL, AND OTHER COMMUNITY  
DEVELOPMENT SERVICES SECTOR**

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

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

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

1. Competency assessment and certification;
2. Registration and delivery of training programs; and
3. Development of curriculum and assessment instruments.

Each CS has four sections:

- Section 1 Definition of Qualification - refers to the group of competencies that describes the different functions of the qualification.
- Section 2 Competency Standards - gives the specifications of competencies required for effective work performance.
- Section 3 Training Standards - contains information and requirements in designing training program for certain Qualification. It includes curriculum design; training delivery; trainee entry requirements; tools, equipment and materials; training facilities; trainer's qualification; and institutional assessment.
- Section 4 National Assessment and Certification Arrangement - describes the policies governing assessment and certification procedure.

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**COMPETENCY STANDARDS FOR  
DENTAL LABORATORY TECHNOLOGY SERVICES  
(Fixed Dentures/Restorations) NC II**

**SECTION 1 DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures /  
Restorations) NC II**

This **DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures/Restorations) NC II** consists of competencies that a person must achieve to perform dental laboratory and prosthetics services specializing in fixed dentures/restorations.

The Units of Competency comprising this qualification include the following:

**UNIT CODE            BASIC COMPETENCIES**

500311105	Participate in workplace communication
500311106	Work in a team environment
500311107	Practice career professionalism
500311108	Practice occupational health and safety procedures

**UNIT CODE            COMMON COMPETENCIES**

HCS516201	Maintain an effective relationship with customers and clients
HCS516202	Manage own performance
HCS346204	Follow occupational health and safety policies in dental laboratory facilities
HCS346205	Maintain infection control in dental practice
ICT311201	Operate a personal computer

**UNIT CODE            CORE COMPETENCIES**

HCS322335	Fabricate metal crown and bridge structures
HCS322336	Fabricate ceramic restorations
HCS322337	Fabricate indirect composite/polymer fixed restorations
HCS322338	Join alloy structures

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

- Dental Laboratory Technician (Fixed Dentures/Restorations)**
- Dental Prosthetics Technician (Fixed Dentures/Restorations)**

## SECTION 2 COMPETENCY STANDARDS

This section gives the details of the contents of the basic, common and core units of competency required in **DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures / Restorations) NC II**.

### BASIC COMPETENCIES

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

UNIT CODE : **500311105**

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

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Obtain and convey workplace information	1.1 Specific and relevant information is accessed from <b>appropriate sources</b> . 1.2 Effective questioning, active listening and speaking skills are used to gather and convey information. 1.3 Appropriate <b>medium</b> is used to transfer information and ideas 1.4 Appropriate non- verbal communication is used. 1.5 Appropriate lines of communication with supervisors and colleagues are identified and followed. 1.6 Defined workplace procedures for the location and <b>storage</b> of information are used. 1.7 Personal interaction is carried out clearly and concisely.
2. Participate in workplace meetings and discussions	2.1 Team meetings are attended on time. 2.2 Own opinions are clearly expressed and those of others are listened to without interruption. 2.3 Meeting inputs are consistent with the meeting purpose and established <b>protocols</b> . 2.4 <b>Workplace interactions</b> are conducted in a courteous manner. 2.5 Questions about simple routine workplace procedures and matters concerning working conditions of employment are asked and responded to. 2.6 Meetings outcomes are interpreted and implemented.
3. Complete relevant work related documents	3.1 Range of <b>forms</b> relating to conditions of employment is completed accurately and legibly. 3.2 Workplace data is recorded on standard workplace forms and documents. 3.3 Basic mathematical processes are used for routine calculations. 3.4 Errors in recording information on forms/ documents are identified and properly acted upon. 3.5 Reporting requirements to supervisor are completed according to organizational guidelines.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate sources	1.1 Team members 1.2 Suppliers 1.3 Trade personnel 1.4 Local government 1.5 Industry bodies
2. Medium	2.1 Memorandum 2.2 Circular 2.3 Notice 2.4 Information discussion 2.5 Follow-up or verbal instructions 2.6 Face to face communication
3. Storage	3.1 Manual filing system 3.2 Computer-based filing system
4. Forms	4.1 Personnel forms, telephone message forms, safety reports
5. Workplace interactions	5.1 Face to face 5.2 Telephone 5.3 Electronic and two way radio 5.4 Written including electronic, memos, instruction and forms, non-verbal including gestures, signals, signs and diagrams
6. Protocols	6.1 Observing meeting 6.2 Compliance with meeting decisions 6.3 Obeying meeting instructions

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Prepared written communication following standard format of the organization</li> <li>1.2 Accessed information using communication equipment</li> <li>1.3 Made use of relevant terms as an aid to transfer information effectively</li> <li>1.4 Conveyed information effectively adopting the formal or informal communication</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Effective communication</li> <li>2.2 Different modes of communication</li> <li>2.3 Written communication</li> <li>2.4 Organizational policies</li> <li>2.5 Communication procedures and systems</li> <li>2.6 Technology relevant to the enterprise and the individual's work responsibilities</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Follow simple spoken language</li> <li>3.2 Perform routine workplace duties following simple written notices</li> <li>3.3 Participate in workplace meetings and discussions</li> <li>3.4 Complete work related documents</li> <li>3.5 Estimate, calculate and record routine workplace measures</li> <li>3.6 Basic mathematical processes of addition, subtraction, division and multiplication</li> <li>3.7 Ability to relate to people of social range in the workplace</li> <li>3.8 Gather and provide information in response to workplace Requirements</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 Fax machine</li> <li>4.2 Telephone</li> <li>4.3 Writing materials</li> <li>4.4 Internet</li> </ul>
<p>5. Method of assessment</p>	<p>Competency <b>MUST</b> be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Direct observation with questioning</li> <li>5.2 Oral interview and written test</li> </ul>
<p>6. Context of assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed individually in the actual workplace or through accredited institution</li> </ul>

**UNIT OF COMPETENCY : WORK IN A TEAM ENVIRONMENT**

**UNIT CODE : 500311106**

**UNIT DESCRIPTOR : This unit covers the skills, knowledge and attitudes to identify role and responsibility as a member of a team.**

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1. Describe team role and scope	1.1 The <b><i>role and objective of the team</i></b> is identified from available <b><i>sources of information</i></b> . 1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources.
2. Identify own role and responsibility within team	2.1 Individual role and responsibilities within the team environment are identified. 2.2 Roles and responsibility of other team members are identified and recognized. 2.3 Reporting relationships within team and external to team are identified.
3. Work as a team member	3.1 Effective and appropriate forms of communications used and interactions undertaken with team members who contribute to known team activities and objectives. 3.2 Effective and appropriate contributions made to complement team activities and objectives, based on individual skills and competencies and <b><i>workplace context</i></b> . 3.3 Observed protocols in reporting using standard operating procedures. 3.4 Contribute to the development of team work plans based on an understanding of team's role and objectives and individual competencies of the members.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Role and objective of team	1.1 Work activities in a team environment with enterprise or specific sector 1.2 Limited discretion, initiative and judgment maybe demonstrated on the job, either individually or in a team environment
2. Sources of information	2.1 Standard operating and/or other workplace procedures 2.2 Job procedures 2.3 Machine/equipment manufacturer's specifications and instructions 2.4 Organizational or external personnel 2.5 Client/supplier instructions 2.6 Quality standards 2.7 OHS and environmental standards
3. Workplace context	3.1 Work procedures and practices 3.2 Conditions of work environments 3.3 Legislation and industrial agreements 3.4 Standard work practice including the storage, safe handling and disposal of chemicals 3.5 Safety, environmental, housekeeping and quality guidelines

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Operated in a team to complete workplace activity</li> <li>1.2 Worked effectively with others</li> <li>1.3 Conveyed information in written or oral form</li> <li>1.4 Selected and used appropriate workplace language</li> <li>1.5 Followed designated work plan for the job</li> <li>1.6 Reported outcomes</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Communication process</li> <li>2.2 Team structure</li> <li>2.3 Team roles</li> <li>2.4 Group planning and decision making</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Communicate appropriately, consistent with the culture of the workplace</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 Access to relevant workplace or appropriately simulated environment where assessment can take place</li> <li>4.2 Materials relevant to the proposed activity or tasks</li> </ul>
<p>5. Method of assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Observation of the individual member in relation to the work activities of the group</li> <li>5.2 Observation of simulation and or role play involving the participation of individual member to the attainment of organizational goal</li> <li>5.3 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork</li> </ul>
<p>6. Context of assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed in workplace or in a simulated workplace setting</li> <li>6.2 Assessment shall be observed while task are being undertaken whether individually or in group</li> </ul>

**UNIT OF COMPETENCY : PRACTICE CAREER PROFESSIONALISM**

**UNIT CODE : 500311107**

**UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes in promoting career growth and advancement.**

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1. Integrate personal objectives with organizational goals	1.1 Personal growth and work plans are pursued towards improving the qualifications set for the profession. 1.2 Intra and interpersonal relationships <del>is</del> are maintained in the course of managing oneself based on performance <b>evaluation</b> . 1.3 Commitment to the organization and its goal is demonstrated in the performance of duties.
2. Set and meet work priorities	2.1 Competing demands are prioritized to achieve personal, team and organizational goals and objectives. 2.2 <b>Resources</b> are utilized efficiently and effectively to manage work priorities and commitments. 2.3 Practices along economic use and maintenance of equipment and facilities are followed as per established procedures.
3. Maintain professional growth and development	3.1 <b>Trainings and career opportunities</b> are identified and availed of based on job requirements. 3.2 <b>Recognitions</b> are -sought/received and demonstrated as proof of career advancement. 3.3 <b>Licenses and/or certifications</b> relevant to job and career are obtained and renewed.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Evaluation	1.1 Performance Appraisal 1.2 Psychological Profile 1.3 Aptitude Tests
2. Resources	2.1 Human 2.2 Financial 2.3 Technology 2.3.1 Hardware 2.3.2 Software
3. Trainings and career opportunities	3.1 Participation in training programs 3.1.1 Technical 3.1.2 Supervisory 3.1.3 Managerial 3.1.4 Continuing Education 3.2 Serving as Resource Persons in conferences and workshops
4. Recognitions	4.1 Recommendations 4.2 Citations 4.3 Certificate of Appreciations 4.4 Commendations 4.5 Awards 4.6 Tangible and Intangible Rewards
5. Licenses and/or certifications	5.1 National Certificates 5.2 Certificate of Competency 5.3 Support Level Licenses 5.4 Professional Licenses

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Attained job targets within key result areas (KRAs)</li> <li>1.2 Maintained intra - and interpersonal relationship in the course of managing oneself based on performance evaluation</li> <li>1.3 Completed trainings and career opportunities which are based on the requirements of the industries</li> <li>1.4 Acquired and maintained licenses and/or certifications according to the requirement of the qualification</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Work values and ethics (Code of Conduct, Code of Ethics, etc.)</li> <li>2.2 Company policies</li> <li>2.3 Company-operations, procedures and standards</li> <li>2.4 Fundamental rights at work including gender sensitivity</li> <li>2.5 Personal hygiene practices</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Appropriate practice of personal hygiene</li> <li>3.2 Intra and Interpersonal skills</li> <li>3.3 Communication skills</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 Workplace or assessment location</li> <li>4.2 Case studies/scenarios</li> </ul>
<p>5. Method of assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Portfolio Assessment</li> <li>5.2 Interview</li> <li>5.3 Simulation/Role-plays</li> <li>5.4 Observation with questioning</li> <li>5.5 Third Party Reports</li> <li>5.6 Exams and Tests</li> </ul>
<p>6. Context of assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed in the work place or in a simulated work place setting</li> </ul>

**UNIT OF COMPETENCY : PRACTICE OCCUPATIONAL HEALTH AND SAFETY PROCEDURES**

**UNIT CODE : 500311108**

**UNIT DESCRIPTOR :** This unit covers the outcomes required to comply with regulatory and organizational requirements for occupational health and safety.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1. Identify hazards and risks	1.1 <b>Safety regulations</b> and workplace safety and hazard control practices and procedures are clarified and explained based on organization procedures. 1.2 <b>Hazards/risks</b> in the workplace and their corresponding indicators are identified to minimize or eliminate risk to co-workers, workplace and environment in accordance with organization procedures. 1.3 <b>Contingency measures</b> during workplace accidents, fire and other emergencies are recognized and established in accordance with organization procedures.
2. Evaluate hazards and risks	2.1 Terms of maximum tolerable limits which when exceeded will result in harm or damage are identified based on threshold limit values (TLV). 2.2 Effects of the hazards are determined. 2.3 OHS issues and/or concerns and identified safety hazards are reported to designated personnel in accordance with workplace requirements and relevant workplace OHS legislation.
3. Control hazards and risks	3.1 Occupational Health and Safety (OHS) procedures for controlling hazards/risks in workplace are consistently followed. 3.2 Procedures for dealing with workplace accidents, fire and emergencies are followed in accordance with organization OHS policies. 3.3 <b>Personal protective equipment (PPE)</b> is correctly used in accordance with organization OHS procedures and practices. 3.4 Appropriate assistance is provided in the event of a workplace emergency in accordance with established organization protocol.
4. Maintain OHS awareness	4.1 <b>Emergency-related drills and trainings</b> are participated in as per established organization guidelines and procedures. 4.2 <b>OHS personal records</b> are completed and updated in accordance with workplace requirements.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Safety regulations	May include but are not limited to: <ol style="list-style-type: none"> <li>1.1 Clean Air Act</li> <li>1.2 Building code</li> <li>1.3 National Electrical and Fire Safety Codes</li> <li>1.4 Waste management statutes and rules</li> <li>1.5 Philippine Occupational Safety and Health Standards</li> <li>1.6 DOLE regulations on safety legal requirements</li> <li>1.7 ECC regulations</li> </ol>
2. Hazards/risks	May include but are not limited to: <ol style="list-style-type: none"> <li>2.1 Physical hazards – impact, illumination, pressure, noise, vibration, temperature, radiation</li> <li>2.2 Biological hazards- bacteria, viruses, plants, parasites, mites, molds, fungi, insects</li> <li>2.3 Chemical hazards – dusts, fibers, mists, fumes, smoke, gasses, vapors</li> <li>2.4 Ergonomics               <ul style="list-style-type: none"> <li>• Psychological factors – over exertion/ excessive force, awkward/static positions, fatigue, direct pressure, varying metabolic cycles</li> <li>• Physiological factors – monotony, personal relationship, work out cycle</li> </ul> </li> </ol>
3. Contingency measures	May include but are not limited to: <ol style="list-style-type: none"> <li>3.1 Evacuation</li> <li>3.2 Isolation</li> <li>3.3 Decontamination</li> <li>3.4 (Calling designed) emergency personnel</li> </ol>
4. PPE	May include but are not limited to: <ol style="list-style-type: none"> <li>4.1 Mask</li> <li>4.2 Gloves</li> <li>4.3 Goggles</li> <li>4.4 Hair Net/cap/bonnet</li> <li>4.5 Face mask/shield</li> <li>4.6 Ear muffs</li> <li>4.7 Apron/Gown/coverall/jump suit</li> <li>4.8 Anti-static suits</li> </ol>
5. Emergency-related drills and training	<ol style="list-style-type: none"> <li>5.1 Fire drill</li> <li>5.2 Earthquake drill</li> <li>5.3 Basic life support/CPR</li> <li>5.4 First aid</li> <li>5.5 Spillage control</li> <li>5.6 Decontamination of chemical and toxic</li> <li>5.7 Disaster preparedness/management</li> </ol>
6. OHS personal records	<ol style="list-style-type: none"> <li>6.1 Medical/Health records</li> <li>6.2 Incident reports</li> <li>6.3 Accident reports</li> <li>6.4 OHS-related training completed</li> </ol>

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Explained clearly established workplace safety and hazard control practices and procedures</li> <li>1.2 Identified hazards/risks in the workplace and its corresponding indicators in accordance with company procedures</li> <li>1.3 Recognized contingency measures during workplace accidents, fire and other emergencies</li> <li>1.4 Identified terms of maximum tolerable limits based on threshold limit value- TLV.</li> <li>1.5 Followed Occupational Health and Safety (OHS) procedures for controlling hazards/risks in workplace</li> <li>1.6 Used Personal Protective Equipment (PPE) in accordance with company OHS procedures and practices</li> <li>1.7 Completed and updated OHS personal records in accordance with workplace requirements</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 OHS procedures and practices and regulations</li> <li>2.2 PPE types and uses</li> <li>2.3 Personal hygiene practices</li> <li>2.4 Hazards/risks identification and control</li> <li>2.5 Threshold Limit Value -TLV</li> <li>2.6 OHS indicators</li> <li>2.7 Organization safety and health protocol</li> <li>2.8 Safety consciousness</li> <li>2.9 Health consciousness</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Practice of personal hygiene</li> <li>3.2 Hazards/risks identification and control skills</li> <li>3.3 Interpersonal skills</li> <li>3.4 Communication skills</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 Workplace or assessment location</li> <li>4.2 OHS personal records</li> <li>4.3 PPE</li> <li>4.4 Health records</li> </ul>
<p>5. Method of assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Portfolio Assessment</li> <li>5.2 Interview</li> <li>5.3 Case Study/Situation</li> </ul>
<p>6. Context of assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed in the work place or in a simulated work place setting</li> </ul>

## COMMON COMPETENCIES

**UNIT OF COMPETENCY** : **MAINTAIN AN EFFECTIVE RELATIONSHIP WITH CLIENTS AND CUSTOMERS**

**UNIT CODE** : **HCS516201**

**UNIT DESCRIPTOR** : This unit covers the knowledge, skills and attitudes and values required in building and maintaining an effective relationship with clients, customers and the public.

ELEMENT	PERFORMANCE CRITERIA
	<i>Italicized terms</i> are elaborated in the Range of Variables
1. Maintain a clean and hygienic environment	1.1 Uniform and personal grooming maintained to assignment requirements. 1.2 <b><i>Personal presence</i></b> maintained according to <b><i>employer standards</i></b> . 1.3 Visible work area kept tidy and uncluttered. 1.4 Equipment stored according to assignment requirements.
2. Meet client/customer requirements	2.1 <b><i>Client requirements</i></b> identified and understood by referral to <b><i>assignment instructions</i></b> . 2.2 Client requirements met according to the assignment instructions. 2.3 Changes to <b><i>client's needs and requirements</i></b> monitored and <b><i>appropriate action taken</i></b> . 2.4 All communication with client or <b><i>customer</i></b> is cleared and complied with assignment requirements.
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 recorded according employer policy. 3.3 Client fully informed of all relevant matters in a timely manner and according to agreed reporting procedures.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Personal Presence	May include but not limited to: <ul style="list-style-type: none"> <li>1.1 Stance</li> <li>1.2 Posture</li> <li>1.3 Body Language</li> <li>1.4 Demeanor</li> <li>1.5 Grooming</li> </ul>
2. Employer Standards	May include but not limited to: <ul style="list-style-type: none"> <li>2.1 Standing Orders</li> </ul>
3. Client Requirements	May include but are not limited to: <ul style="list-style-type: none"> <li>3.1 Assignment instructions</li> <li>3.2 Post Orders</li> <li>3.3 Scope to modify instructions/orders in light of changed situations</li> </ul>
4. Assignment Instructions	May be conveyed in: <ul style="list-style-type: none"> <li>4.1 Writing</li> <li>4.2 Verbally</li> <li>4.3 Electronically</li> </ul>
5. Client Needs and Requirements	May be detected by: <ul style="list-style-type: none"> <li>5.1 Review of the client brief and/or assignment instructions</li> <li>5.2 Discussion with the client/customer</li> </ul>
6. Appropriate Action	May include: <ul style="list-style-type: none"> <li>6.1 Implementing required changes</li> <li>6.2 Referring to appropriate employer personnel</li> <li>6.3 Clarification of client needs and instructions</li> <li>6.4 Hazard reports</li> </ul>
7. Customers	May include: <ul style="list-style-type: none"> <li>7.1 All members of the public</li> </ul>

## EVIDENCE GUIDE

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Maintained a professional image</li> <li>1.2 Interpreted client/customer requirements from information</li> <li>1.3 Dealt successfully with a variety of client/customer interactions</li> <li>1.4 Monitored and acted on changing client or customer needs</li> <li>1.5 Met client/customer requirements</li> <li>1.6 Built credibility with customers/client</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Uniform and personal grooming requirements of the employer</li> <li>2.2 Occupational health and safety requirement for the assignment</li> <li>2.3 Assignment Instructions</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Attention to detail when completing client/employer documentation</li> <li>3.2 Interpersonal and communication skills required in client contact assignments</li> <li>3.3 Customer service skills required to meet client/customer needs</li> <li>3.4 Punctuality</li> <li>3.5 Customer Service</li> <li>3.6 Telephone Technique</li> <li>3.7 Problem Solving and Negotiation</li> <li>3.8 Maintaining Records</li> </ul>
4. Resource implications	<p>The following resources <b>MUST</b> be provided</p> <ul style="list-style-type: none"> <li>4.1 Assessment Centers/Venues</li> <li>4.2 Accredited Assessors</li> <li>4.3 Modes of Assessment</li> <li>4.4 Evaluation Reports</li> <li>4.5 Access to a relevant venue, equipment and materials</li> <li>4.6 Assignment Instructions</li> <li>4.7 Logbooks</li> <li>4.8 Operational manuals and makers/customers' instructions</li> <li>4.9 Assessment instruments, including personal planner and assessment record book</li> </ul>
5. Method of assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Written Test</li> <li>5.2 Demonstration with questioning</li> <li>5.3 Observation with questioning</li> </ul>
6. Context of assessment	<ul style="list-style-type: none"> <li>6.1 Assessment may be done in the workplace or in a simulated workplace setting.</li> </ul>

**UNIT OF COMPETENCY : MANAGE OWN PERFORMANCE**

**UNIT CODE : HCS516202**

**UNIT DESCRIPTOR : This unit of competency covers the knowledge, skills and attitudes in effectively managing own workload and quality work.**

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1. Plan for completion of own workload	1.1 <b>Tasks</b> 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 with 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 performance	2.1 Personal performance continually monitored against agreed <b>performance standards</b> . 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 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, recorded and in accordance with employer policy. 3.3 Client fully informed of all relevant matters in a timely manner.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Tasks	1.1 May be identified through: <ul style="list-style-type: none"> <li>1.1.1 Assignment Instructions</li> <li>1.1.2 Verbal Instructions by Senior Staff</li> <li>1.1.3 Policy Documents</li> <li>1.1.4 Duty Statements</li> <li>1.1.5 Self Assessment</li> </ul> 1.2 May be: <ul style="list-style-type: none"> <li>1.2.1 Daily tasks</li> <li>1.2.2 Weekly tasks</li> <li>1.2.3 Regularly or irregularly occurring tasks</li> </ul>
2. Performance Standards	May include: <ul style="list-style-type: none"> <li>2.1 Assignment Instructions</li> <li>2.2 Procedures established in policy documents</li> </ul>

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Planned for completion of own workload</li> <li>1.2 Assessed verbal or written work plan through observation and discussion of site and employer requirements</li> <li>1.3 Demonstrated capacity to complete task within specified time frame</li> <li>1.4 Maintained quality of own performance</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Sight and assignment requirements</li> <li>2.2 Employer policy on performance management</li> <li>2.3 Indicators of appropriate performance for each area of responsibility</li> <li>2.4 Steps for improving or maintaining performance</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Capacity to plan and prioritize work loads and requirements</li> <li>3.2 Time and task management</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 Assessment Centers/Venues</li> <li>4.2 Accredited Assessors</li> <li>4.3 Modes of Assessment</li> <li>4.4 Evaluation Reports</li> <li>4.5 Access to relevant venue, equipment and materials</li> <li>4.6 Assignment Instructions</li> <li>4.7 Logbooks</li> <li>4.8 Operational manuals and makers'/customers' instructions</li> <li>4.9 Assessment Instruments, including personal planner and assessment record book</li> </ul>
<p>5. Method of assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Written Test</li> <li>5.2 Demonstration with questioning</li> <li>5.3 Observation with questioning</li> <li>5.4 Oral questioning/Interview</li> </ul>
<p>6. Context of assessment:</p>	<ul style="list-style-type: none"> <li>6.1 Assessment may be done in the workplace or in a simulated workplace setting.</li> </ul>

**UNIT OF COMPETENCY : FOLLOW OCCUPATIONAL HEALTH AND SAFETY POLICIES IN DENTAL LABORATORY FACILITIES**

**UNIT CODE : HCS346204**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required in applying relevant OHS legislation and codes of practice, including duties and responsibilities for all parties under general duty of care.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1 Follow workplace procedures for hazard identification and risk control	1.1 Hazards in the work area are recognized and reported to supervisor in accordance with workplace procedures. 1.2 <b>Workplace procedures and work instructions for controlling risks</b> , including infection control, are followed accurately. 1.3 <b>Workplace procedures</b> for dealing with accidents, fires and emergencies are followed where necessary.
2 Contribute to the management of OHS	2.1 OHS issues are raised with designated personnel and co-workers as appropriate. 2.2 Contributions are made as appropriate to workplace OHS discussions.
3 Utilize and implement strategies as directed to prevent infection in the workplace	3.1 The environment is kept clean and tidy. 3.2 Personal hygiene practices are followed. 3.3 Any <b>items that may be contaminated</b> are disposed of safely.
4 Utilize strategies to prevent stress overload	4.1 Nominated <b>rest time and breaks</b> are taken. 4.2 Sources of <b>stress</b> are identified and issues raised with supervisor. 4.3 Work roles are clarified and followed.
5 Work in a safe manner	5.1 Defined procedures are followed to ensure personal safety. 5.2 All <b>work is carried out in a manner which ensures safety</b> of self and others 5.3 <b>Organizational security measures</b> are followed. 5.4 Safe manual handling procedures are followed.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Workplace procedures for controlling risks	May include: 1.1 Manual handling techniques 1.2 Safe handling, storage and disposal of inflammable or potentially dangerous substances 1.5 Strategies for reducing the amount of manual handling required
2. Stress	May include: 2.1 Health problems 2.2 Changes in behavior 2.3 Frequent absences 2.4 Negative attitudes 2.5 Unawareness of own stress levels
3. Rest time and breaks	May include: 3.1 Morning and afternoon tea, lunch, dinner breaks
4. Workplace procedures	May include: 4.1 Grievance procedures 4.2 Team meetings 4.3 Incident reports 4.4 Debriefing procedures following crisis 4.5 Smoke free environment
5. Items that may be contaminated	May include: 5.1 Work surfaces 5.2 Clothing
6. Working in a manner that ensures personal safety	May include: 6.1 Carrying communication equipment 6.2 Using personal protection equipment 6.3 Safe work practices for handling sharps and other hazards in dental laboratory practice 6.4 Carrying alarms 6.5 Maintaining infection control in dental laboratory practice
7. Organizational security measures	May include: 7.1 Locking doors 7.2 Alarm system 7.3 Contracted security personnel

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Worked safely and followed OHS policies and procedures in dental laboratory practice</li> <li>1.2 Complied with DOH infection control guidelines</li> <li>1.3 Contributed to the management of OHS</li> <li>1.4 Utilized and implemented strategies as directed to prevent infection in the workplace</li> <li>1.5 Utilized strategies to prevent stress overload</li> <li>1.6 Worked in a safe manner</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Compliance with OHS policy and procedures and infection control guidelines and procedures</li> <li>2.2 Knowledge of potential hazards in the workplace</li> <li>2.3 Knowledge of laboratory waste disposal methods</li> <li>2.4 Knowledge of personal hygiene and personal protection including immunization</li> <li>2.5 Knowledge of legislative requirements and best practice approaches to OHS</li> <li>2.6 Emergency procedures</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Manual handling techniques</li> <li>3.2 Safe handling techniques</li> <li>3.3 Correct use of equipment, instruments and materials in accordance with manufacturer specifications</li> <li>3.4 Technology used to work safely and competently</li> <li>3.5 Safe work practices to prevent or minimize risk</li> <li>3.6 Reading and writing skills</li> <li>3.7 Oral communication skills</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 Relevant dental laboratory practice/organizational policies and procedures manuals such as: <ul style="list-style-type: none"> <li>4.1.1 Incident reporting procedures</li> <li>4.1.2 OHS policy and procedures</li> <li>4.1.3 Infection control guidelines (DOH)</li> <li>4.1.4 Waste management policies</li> <li>4.1.5 Relevant state legislation</li> <li>4.1.6 Manufacturer's instructions for the use of relevant equipment, instruments and materials</li> <li>4.1.7 Material Safety Data Sheets (MSDs)</li> </ul> </li> </ul>
<p>5. Method of assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Observation with questioning</li> <li>5.2 Oral questioning/Interview</li> <li>5.3 Portfolio</li> <li>5.4 Third Party Report</li> </ul>
<p>6. Context of assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed in the workplace or in a simulated work setting.</li> </ul>

**UNIT OF COMPETENCY : MAINTAIN INFECTION CONTROL IN DENTAL LABORATORY PRACTICE**

**UNIT CODE : HCS346205**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to comply with infection control procedures before, during and after health care procedures.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
<p>1 Monitor and maintain the cleanliness of the dental laboratory</p>	<p>1.1 Appropriate personal protective wear is used during cleaning of equipment and surfaces.</p> <p>1.2 Appropriate disinfectants and cleaning equipment are selected, prepared and used on surfaces in accordance with the manufacturer’s specification.</p> <p>1.3 Used surface covers, if applicable, are removed and replaced in a manner to prevent cross contamination.</p> <p>1.4 <b>Cleaning equipment</b> is correctly stored.</p> <p>1.5 All <b>surfaces</b> including internal storage units within the dental laboratory are monitored and maintained for cleanliness.</p>
<p>2 Clean and disinfect dental laboratory /instruments and equipment</p>	<p>2.1 Dental laboratory instruments and equipment are cleaned of bio-burden and lubricated, where appropriate, prior to cleaning and disinfecting.</p> <p>2.2 Dental laboratory instruments and equipment are checked for faults and disassembled where appropriate.</p> <p>2.3 Prior to cleaning of dental laboratory instruments and equipment are loaded safely and effectively.</p> <p>2.4 Appropriate cleaning procedures are carried out in the correct sequence and duration in accordance with manufacturer specifications.</p> <p>2.5 Regular maintenance program including faults and incidences are recognized, reported and documented.</p>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
3 Maintain hygiene and personal protection	3.1 Hand washing procedures are correctly followed. 3.2 Open cuts and abrasions are covered with a waterproof dressing. 3.3 Appropriate <b>personal protection wear</b> is correctly worn. 3.4 Immunization is undertaken in accordance with current recommendations for dental health care worker. 3.5 All work is carried out in a manner that minimizes the risk of cross contamination and complies with OHS policy and procedures. 3.6 Hazards in the dental laboratory is recognized and reported to operator. 3.7 Appropriate procedures for dealing with accidents, including sharp injuries, are followed correctly.
4 Dispose of dental laboratory waste safely	4.1 Appropriate protective clothing is worn or used in accordance with OHS policy and procedures when handling waste. 4.2 <b>Waste is segregated, contained</b> , stored and transported correctly. 4.3 Damaged and/or pre-packed items are disposed of safely. 4.4 <b>Waste is disposed of safely.</b>
5 Undertake the necessary measures to ensure prevention of transmission of infection	5.1 Risks of cross contamination are identified and appropriate responses implemented within dental practice. 5.2 Clean, contaminated and administrative zones are clearly identified and maintained. 5.3 Instruments, materials, medicaments and equipment are set up prior to commencement of treatment where appropriate. 5.4 One-way workflow from clean to dirty zone is maintained. 5.5 Risk of transmission of infection is minimized in all dental laboratory related and administrative procedures. 5.6 Spills are removed correctly.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Infection control guidelines and procedures	May include but are not limited to: <ul style="list-style-type: none"> <li>1.1 Current DOH guidelines for infection control in health care settings</li> <li>1.2 Standard Precautions and Additional Precautions as defined by DOH</li> <li>1.3 Dental laboratory practice/organizational policy procedures and infection control guidelines and procedures</li> <li>1.4 Material Safety Data Sheets (MSDS)</li> <li>1.5 Local government ordinances</li> <li>1.6 Legislative requirements</li> </ul>
2. Personal protective wear	May include but not limited to: <ul style="list-style-type: none"> <li>2.1 Sterile and non sterile gloves including heavy duty</li> <li>2.2 Masks</li> <li>2.3 Eye protection</li> <li>2.4 Enclosed footwear</li> <li>2.5 Gowns</li> <li>2.6 Aprons</li> </ul>
3. Cleaning equipment	May include but is not limited to: <ul style="list-style-type: none"> <li>3.1 Ultrasonic cleaner</li> <li>3.2 Manual cleaning with a range of brushes</li> <li>3.3 Drying</li> <li>3.4 Buckets and mops</li> </ul>
4. Waste segregation	May include but is not limited to: <ul style="list-style-type: none"> <li>4.1 Clinical and related waste</li> <li>4.2 Infectious waste</li> <li>4.3 Sharps</li> <li>4.4 General waste</li> <li>4.5 Other hazardous substances</li> </ul>
5. Requirements for safe disposal of waste	May be determined by: <ul style="list-style-type: none"> <li>5.1 Main drainage</li> <li>5.2 Local government ordinances</li> <li>5.3 Material Safety Data Sheet (MSDS)</li> </ul>

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Demonstrated knowledge of infection risks in health environment and specifically in dental laboratory practice</li> <li>1.2 Complied with current DOH infection control guidelines and procedures, OHS and legislative requirements</li> <li>1.3 Handled waste safely managed procedures in accordance with legislative requirements</li> <li>1.4 Selected and used appropriate cleaning agents for particular surfaces and equipment in accordance with the manufacturer's specifications</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Knowledge on how infection is spread, cross infection and prevention strategies</li> <li>2.2 Knowledge of relevant OHS policies and procedures</li> <li>2.3 Limitations, properties and precautions required of disinfectants and decontaminates</li> <li>2.4 Knowledge of potential hazards in a health environment</li> <li>2.5 Knowledge of currently available vaccinations against transmissible disease</li> <li>2.6 Knowledge of dental laboratory waste disposal methods</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Applying standard and additional precautions</li> <li>3.2 Using safe work practices to minimize the risk of transmission of infection</li> <li>3.3 Selecting and using appropriate chemicals in cleaning and sanitizing</li> <li>3.4 Using correct hand washing and hand care techniques</li> <li>3.5 Using correct hygiene procedures</li> <li>3.6 Selecting and using equipment and cleaning agents effectively</li> <li>3.7 Using procedures appropriate to the cleaning area and purpose</li> <li>3.8 Minimizing disruption to the work environment</li> <li>3.9 Minimizing safety hazards for self and others</li> <li>3.10 Using time management strategies to set priorities</li> <li>3.11 Using technology to work safely and competently</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 Relevant dental laboratory practice/organizational policy and procedures</li> <li>4.2 Incident reporting procedures</li> <li>4.3 Occupational health and safety policy and procedures</li> <li>4.4 Infection control guidelines</li> <li>4.5 Waste management policies</li> <li>4.6 Relevant state legislations</li> <li>4.7 Manufacturer's instructions for the use of relevant equipment, instruments, medicaments, materials and Material Safety Data Sheets (MSDS)</li> <li>4.8 Cleaning agents currently used in the workplace</li> </ul>

5. Method of assessment	Competency may be assessed through: 5.1 Written Test/Examination 5.2 Demonstration with questioning 5.3 Observation with questioning 5.4 Portfolio 5.5 Third Party Report
6. Context of assessment	6.1 Competency may be assessed in the workplace or in a simulated work setting.

**UNIT TITLE** : **OPERATE A PERSONAL COMPUTER**  
**UNIT CODE** : ICT311201  
**UNIT DESCRIPTOR** : This unit defines the competency required to operate a personal computer by: starting the PC, logging in, using and working with files, folders and programs, saving work, and closing down the PC.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized Bold</i> terms are elaborated in the Range of Variables
1. Start the computer	1.1 The <b>peripheral devices</b> are properly connected 1.2 Power is checked and the <b>computer</b> and peripheral devices are switched on 1.3 Proper logging in and logging off is successfully done 1.4 The <b>operating system</b> features and functions are accessed and navigated 1.5 Hardware configuration and other <b>system features</b> are checked
2. Arrange and customize desktop display/ Windows settings	2.1 The desktop screen or Windows elements are changed as needed 2.2 Desktop icons are added, renamed, moved, copied or deleted 2.3 The <b>online help functions</b> are accessed or used as needed 2.4 Desktop icons of <b>application programs</b> are selected, opened and closed 2.5 <b>Properties</b> of icons are displayed 2.6 Computer or desktop settings are saved and restored
3. Work with files and folders (or directories)	3.1 A file or folder is created, opened, moved, renamed or copied 3.2 Files are located, deleted and restored 3.3 Details and properties of files and folders are displayed or viewed 3.4 <b>Various files</b> are organized for easy lookup and use 3.5 Files and information are searched 3.6 <b>Disks</b> are checked, erased or formatted as necessary
4. Work with user application programs	4.1 <b>Application programs</b> are added, changed, removed or ran 4.2 User software or application program are installed, updated and upgraded 4.3 Information/data are moved between documents or files
5. Print information	5.1 Printer is added or installed and correct <b>printer settings</b> is ensured 5.2 Default printer is assigned accordingly 5.3 Information or document is printed on the installed printer 5.4 Progress of print jobs are viewed and deleted as required
6. Shut down computer	6.1 All open application programs are closed 6.2 Computer and peripheral devices are properly shut down

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Peripheral device	This may include but is not limited to: <ul style="list-style-type: none"> <li>1.1 mouse</li> <li>1.2 keyboard</li> <li>1.3 monitor or visual display unit</li> <li>1.4 printer</li> <li>1.5 scanner</li> </ul>
2. Computer	May include: <ul style="list-style-type: none"> <li>2.1 Laptops/notebooks</li> <li>2.2 Workstations</li> <li>2.3 Servers</li> <li>2.4 other personal computer devices</li> </ul>
3. Application programs	Can include: <ul style="list-style-type: none"> <li>3.1 user programs</li> <li>3.2 database programs</li> <li>3.3 word processors</li> <li>3.4 email programs</li> <li>3.5 Internet browsers</li> <li>3.6 system browsers</li> <li>3.7 spreadsheets</li> </ul>
4. Operating system	May include but is not limited to the various versions and variants of: <ul style="list-style-type: none"> <li>4.1 Windows</li> <li>4.2 NT</li> <li>4.3 Mac OS</li> <li>4.4 Linux</li> <li>4.5 Solaris</li> <li>4.6 Unix</li> </ul>
5. System features	May include but is not limited to the operating system features and hardware features like: <ul style="list-style-type: none"> <li>5.1 memory size</li> <li>5.2 disk capacities</li> <li>5.3 video cards</li> <li>5.4 USBs</li> <li>5.5 Modems</li> <li>5.6 1394 and LAN connectors</li> <li>5.7 SD and PC cards</li> <li>5.8 wireless and infrared connections.</li> </ul>

VARIABLE	RANGE
6. Online help functions	6.1 An instruction manual, or a portion of the manual, integrated and accessible from within the program or software being used.
7. Properties	Indicates the description of the file or folder to include the: 7.1 file name 7.2 type of file 7.3 file size 7.4 date created and modified 7.5 attributes (hidden, read-only).
8. Various files	8.1 Documents 8.2 Records 8.3 Pictures 8.4 Music 8.5 Video
9. Disks	May include but is not limited to: 9.1 Floppy disks 9.2 CDs 9.3 CD-RW (Compact discs-Read/Write) 9.4 DVD RW 9.5 zip disks 9.6 flash drives 9.7 memory sticks 9.8 hard drives
10. Printer settings	The properties of the printer that enables it to work includes: 10.1 page layout 10.2 paper size 10.3 ink/cartridge type 10.4 number of copies 10.5 page orientation

## EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p>1.1 Assessment must confirm the ability to utilize software, navigate the desktop, using system features to perform tasks and save results of work.</p>
<p>2. Underpinning Knowledge</p>	<p>Knowledge includes:</p> <p>2.1 Keyboard layout and functions</p> <p>2.2 Computer functions</p> <p>2.3 Basic parts of a computer and various hardware components</p> <p>2.4 Storage devices and file concepts</p> <p>2.5 Basic software operation and functionalities</p>
<p>3. Underpinning Skills</p>	<p>Skills include:</p> <p>3.1 Saving and retrieving files to and from various folders or disk storage</p> <p>3.2 Mouse and keyboarding skills for running software applications</p> <p>3.3 Reading and writing at a level where basic workplace documents are understood</p> <p>3.4 Clear ability to communicate with peers and supervisors</p> <p>3.5 Interpretation of user manuals and help functions</p> <p>3.6 The ability to carry out written and verbal instructions using a personal computer whether standalone or in a networked environment</p>
<p>4. Resource Implications</p>	<p>To demonstrate competence in this unit access to the following resources will be required:</p> <p>4.1 A personal computer</p> <p>4.2 A printer</p> <p>4.3 Mouse and keyboard</p> <p>4.4 Basic systems software</p>
<p>5. Methods of Assessment</p>	<p>Competency may be assessed through:</p> <p>5.1 Observation in a workplace or simulated environment</p> <p>5.2 Third party reports</p> <p>5.3 Exams and tests</p> <p>5.4 Demonstration of required skills</p> <p>5.5 Interviews</p>
<p>6. Context for Assessment</p>	<p>6.1 Competency may be assessed in the workplace or in a simulated work environment.</p>

## CORE COMPETENCIES

**UNIT OF COMPETENCY : FABRICATE METAL CROWN AND BRIDGE STRUCTURES**

**UNIT CODE : HCS322335**

**UNIT DESCRIPTOR : This unit involves fabrication of metal alloy, crown and bridge structures.**

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Prepare sectionalized models	1.1 Models are sectioned. 1.2 Margins are identified and models are trimmed. 1.3 Margins are hardened if required.
2. Wax and invest fixed partial dentures and structures	2.1 Crown and bridge restorations are waxed up. 2.2 Crown and bridge wax pattern is sprued and prepared for investing. 2.3 Appropriate investment material is selected and wax patterns are selected. 2.4 Wax patterns are invested.
3. Burn-out cast and finish <b>alloy</b> fixed partial dentures and structures	3.1 Burnout techniques are selected appropriate to the technique. 3.2 Metal <b>restorations</b> are cast in appropriate alloy. 3.3 Metal restoration is devested without damaging casting. 3.4 Metal restoration is trimmed and polished while maintaining all contact areas and margin.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Construction of crown and bridges structures	May include but are not limited to: 1.1 A range of designs 1.2 Anterior and posterior teeth 1.3 Metal inlays, crowns and bridges 1.4 Ceramic fused to metal sub structures
2. Alloy	May include but are not limited to: 2.1 Cobalt chromium based alloys 2.2 Gold alloys 2.3 Metal/ceramic alloys
3. Restoration	May include but are not limited to: 3.1 Complete and partial dentures 3.2 Crown and bridge 3.3 Implant 3.4 Splints

## EVIDENCE GUIDE

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Prepared and sectionalized models</li> <li>1.2 Waxed and invested fixed partial dentures and structures</li> <li>1.3 Burned-out cast and finished alloy fixed partial dentures and structures</li> <li>1.4 Applied the different principles, policies and techniques on casting, spruing, soldering, waxing, investing and finishing</li> <li>1.5 Followed OH&amp;S and Department of Health infection control guidelines</li> </ul>
2. Underpinning knowledge	<p>Knowledge and principles on:</p> <ul style="list-style-type: none"> <li>2.1 Casting techniques</li> <li>2.2 Spruing techniques</li> <li>2.3 Tooth morphology</li> <li>2.4 Articulation and occlusion</li> <li>2.5 Relevant material science for carrying out procedures</li> <li>2.6 Soldering techniques</li> <li>2.7 Wax and plastic pattern techniques</li> <li>2.8 Investing techniques</li> <li>2.9 Occupation Health and Safety</li> <li>2.10 Finishing techniques</li> <li>2.11 Current DOH infection control guidelines</li> <li>2.12 Dental Policies and Procedures</li> <li>2.13 Regulatory and Legislation Requirements</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Casting techniques</li> <li>3.2 Spruing techniques</li> <li>3.3 Soldering techniques</li> <li>3.4 Wax and plastic pattern techniques</li> <li>3.5 Investing techniques</li> <li>3.6 Finishing technique</li> <li>3.7 Manual dexterity</li> <li>3.8 Ability to work as part of the team</li> <li>3.9 Planning of work</li> <li>3.10 Language, literacy and numeracy skills appropriate to the role and workplace requirements</li> <li>3.11 Operational skills to consistently use time effectively and provide quality customer service in the dental environment</li> </ul>
4. Resource implications	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 A real simulated dental environment</li> <li>4.2 Relevant documentation such as: <ul style="list-style-type: none"> <li>4.2.1 dental policies and procedures</li> <li>4.2.2 regulatory and legislation requirements as appropriate</li> </ul> </li> <li>4.3 A qualified workplace assessor and/or a technical expert working in partnership with the assessor</li> </ul>
5. Method of assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Demonstration with questioning</li> <li>5.2 Written Test/Examination</li> <li>5.3 Third party Report</li> <li>5.4 Portfolio</li> </ul>
6. Context of assessment	<ul style="list-style-type: none"> <li>6.1 Assessment may be conducted in the workplace or in a simulated environment</li> </ul>

**UNIT OF COMPETENCY : FABRICATE CERAMIC RESTORATIONS**

**UNIT CODE : HCS322336**

**UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitude in fabricating ceramic restorations and fixed partial dentures.**

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1 Prepare sub-structures	1.1 Sub-structure is assessed for accuracy and appropriateness. 1.2 Sub-structure conformed to standard guidelines. 1.3 Structure is prepared for porcelain build-up. 1.4 Sub-structure is treated according to manufacturer's guidelines.
2 Select and apply ceramics	2.1 Porcelains appropriate to the <b>procedure</b> is selected and applied. 2.2 Operator requirements are selected and applied.
3 Trim, shape and finish restorations	3.1 Ceramic <b>restoration</b> is trimmed to required anatomical shape. 3.2 Ceramic restoration is completed to meet the clinically accepted standards.

**RANGE OF VARIABLES**

<b>VARIABLE</b>	<b>RANGE</b>
1. Procedures	Procedures to include crowns and bridges of the following types: 1.1 Ceramic fused to precious, semi-precious and non-precious metal/alloy 1.2 All ceramic restorations 1.3 Ceramic veneers, inlays and onlays 1.4 Castable ceramic
2. Restoration	May include but not limited to: 2.1 Complete and partial 2.2 Crown and bridge 2.3 Implant 2.4 Splint

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Prepared sub-structures</li> <li>1.2 Selected and applied ceramics</li> <li>1.3 Trimmed, shaped and finished restorations</li> <li>1.4 Complied with infection control policies and procedures</li> <li>1.5 Followed OH&amp;S policies</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Ceramics</li> <li>2.2 Metallurgy</li> <li>2.3 Color</li> <li>2.4 Science</li> <li>2.5 Current DOH infection control guidelines</li> <li>2.6 Oral Anatomy</li> <li>2.7 Cause of faults during fabrication</li> <li>2.8 Rationale for processes and procedures</li> <li>2.9 Principles of occlusion</li> <li>2.10 Industry Codes of Practice</li> <li>2.11 Relevant Laws as appropriate</li> <li>2.12 Housekeeping and Maintenance Procedures</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Manual dexterity</li> <li>3.2 Maintaining a healthy and safe working environment</li> <li>3.3 Carving teeth</li> <li>3.4 Accuracy</li> <li>3.5 Efficient use of materials</li> <li>3.6 Analyzing faults</li> <li>3.7 Maintaining personal hygiene</li> <li>3.8 Following correct measurements</li> <li>3.9 Planning and organizing work activities</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 A real or simulated dental laboratory environment</li> <li>4.2 Relevant documentation such as: <ul style="list-style-type: none"> <li>4.2.1 industry codes of practice</li> <li>4.2.2 state legislation as appropriate</li> <li>4.2.3 housekeeping/maintenance procedures</li> </ul> </li> <li>4.3 A qualified workplace assessor and/or a technical expert working in partnership with assessor</li> </ul>

<p>5. Method of assessment</p>	<p>Competency may be assessed through:</p> <p>5.1 Demonstration with questioning</p> <p>5.2 Written Test/Examination</p> <p>5.3 Third Party Report</p> <p>5.4 Portfolio</p>
<p>6. Context of assessment</p>	<p>6.1 Competency may be assessed in the workplace or accredited assessment center.</p>

**UNIT OF COMPETENCY : FABRICATE INDIRECT COMPOSITE/POLYMER FIXED RESTORATIONS**

**UNIT CODE : HCS322337**

**UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitude in fabricating indirect composite/polymer fixed restorations.**

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1. Prepare model	1.1 Work order is interpreted. 1.2 Model is treated as required. 1.3 Sub-structure (if used) is treated for application of material.
2. Fabricate restoration	2.1 Appropriate system is selected. 2.2 Margin is indicated as required. 2.3 Materials are selected. 2.4 Materials are mixed or manipulated. 2.5 Materials are applied and adapted. 2.6 Surface of the restoration is treated if required. 2.7 Material is processed to industry standard.
3. Trim, shape and finish restoration	3.1 Rotary trimmers are selected. 3.2 Shape is refined. 3.3 Restoration is finished according to work order requirements.

**RANGE OF VARIABLES**

<b>VARIABLE</b>	<b>RANGE</b>
1. Restorations	May include but are not limited to: 1.1 Single full crowns 1.2 Bridges 1.3 Maryland bridges 1.4 Implant supported restorations 1.5 Veneers 1.6 Inlays 1.7 Half and three-quarter crowns 1.8 On-lays

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Prepared model</li> <li>1.2 Fabricated restoration</li> <li>1.3 Trimmed, shaped and finished restoration</li> <li>1.4 Complied with infection control policies and procedures</li> <li>1.5 Followed OH&amp;S policies</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Relevant material science for carrying out procedures</li> <li>2.2 Articulation and occlusion</li> <li>2.3 Tooth morphology</li> <li>2.4 Oral anatomy</li> <li>2.5 Color</li> <li>2.6 Current DOH infection control guidelines</li> <li>2.7 Metallurgy</li> <li>2.8 Polymer science</li> <li>2.9 Industry Codes of Practice</li> <li>2.10 Relevant Laws as appropriate</li> <li>2.11 Housekeeping and Maintenance Procedures</li> </ul>
<p>3 Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Manual dexterity</li> <li>3.2 Maintaining a healthy and safe working environment</li> <li>3.3 Carving restorations</li> <li>3.4 Matching of color and shades</li> <li>3.5 Analyzing of faults</li> <li>3.6 Maintaining personal hygiene</li> <li>3.7 Use of materials</li> <li>3.8 Planning and organizing work activities</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 A real or simulated dental laboratory environment</li> <li>4.2 Relevant documentation such as: <ul style="list-style-type: none"> <li>4.2.1 industry codes of practice</li> <li>4.2.2 state legislation as appropriate</li> <li>4.2.3 housekeeping/maintenance procedures</li> </ul> </li> <li>4.3 Color and shades of teeth</li> <li>4.4 A qualified workplace assessor and/or a technical expert working in partnership with the assessor</li> </ul>

5. Method of assessment	Competency may be assessed through: 5.1 Demonstration with questioning 5.2 Written Test/Examination 5.3 Third Party Report 5.4 Portfolio
6. Context of assessment	6.1 Competency may be assessed in the workplace or accredited assessment center.

**UNIT OF COMPETENCY : JOIN ALLOY STRUCTURES**

**UNIT CODE : HCS322338**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes in joining alloy structures through thermal processes.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variables
1. Solder components	1.1 <b>Component materials</b> are identified. 1.2 Appropriate solder and flux are selected. 1.3 Appropriate <b>heating methods</b> are selected. 1.4 Components are selected and soldered. 1.5 Components are cleaned, trimmed, shaped and finished. 1.6 Components are disinfected according to DOH guidelines.
2. Weld components	2.1 Component materials are identified. 2.2 Appropriate welding techniques are selected. 2.3 Components are welded. 2.4 Components are cleaned, trimmed, shaped and finished. 2.5 Components are disinfected according to DOH guidelines.

**RANGE OF VARIABLES**

<b>VARIABLE</b>	<b>RANGE</b>
1. Component materials	May include but are not limited to: 1.1 Solder and flux 1.2 Soldering investment
2. Heating methods	May include but are not limited to: 2.1 Open flame 2.2 Laser

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Soldered components</li> <li>1.2 Welded components</li> <li>1.3 Complied with infection control policies and procedures</li> <li>1.4 Followed OH&amp;S policies</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Dental alloys</li> <li>2.2 Orthodontic wires</li> <li>2.3 Solder and Fluxes</li> <li>2.4 Soldering and welding techniques</li> <li>2.5 Finishing methods</li> <li>2.6 OH&amp;S and materials safety data sheets</li> <li>2.7 Industry Codes of Practice</li> <li>2.8 Relevant Laws as appropriate</li> <li>2.9 Housekeeping and Maintenance Procedures</li> </ul>
<p>3 Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Manual dexterity</li> <li>3.2 Maintaining a healthy and safe working environment</li> <li>3.3 Soldering and welding techniques</li> <li>3.4 Finishing methods</li> <li>3.5 Planning and organizing work activities</li> </ul>
<p>4. Resource implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 A real or simulated dental laboratory environment</li> <li>4.2 Relevant documentation such as: <ul style="list-style-type: none"> <li>4.2.1 industry codes of practice</li> <li>4.2.2 state legislation as appropriate</li> <li>4.2.3 housekeeping/maintenance procedures</li> </ul> </li> <li>4.3 Solder and fluxes</li> <li>4.4 Dental alloys</li> <li>4.5 Orthodontic wires</li> <li>4.6 A qualified workplace assessor and/or a technical expert working in partnership with the assessor</li> </ul>
<p>5. Method of assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Demonstration with questioning</li> <li>5.2 Observation with questioning</li> <li>5.3 Oral questioning/Interview</li> <li>5.4 Written Test/Examination</li> </ul>
<p>6. Context of assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed in the workplace or accredited assessment center.</li> </ul>

## SECTION 3 TRAINING STANDARDS

This set of standards provides Technical and Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for **DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures / Restorations) NC II**.

This includes information on curriculum design, training delivery, trainee entry requirements, tools, materials and equipment, training facilities and trainers qualification and national assessment and certification arrangements.

### 3.1 CURRICULUM DESIGN

Course Title: **DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures/Restorations)**

NC Level: **NC II**

Nominal Training Hours: **808 Hours**

Course Description:

This course is designed to enhance the knowledge, skills and attitudes of **DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures/Restorations)** in accordance with industry standards. It covers basic, common and core competencies in NC II.

### BASIC COMPETENCIES

18 Hours

UNIT OF COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
1. Participate in workplace communication	1.1 Obtain and convey workplace information. 1.2 Complete relevant work related documents. 1.3 Participate in workplace meeting and discussion.	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/</li> <li>• Questioning</li> </ul>
2. Work in a team environment	2.1 Describe and identify team role and responsibility in a team. 2.2 Describe work as a team member.	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/</li> <li>• Questioning</li> </ul>
3. Practice career professionalism	3.1 Integrate personal objectives with organizational goals. 3.2 Set and meet work priorities. 3.3 Maintain professional growth and development.	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/</li> <li>• Questioning</li> </ul>

4. Practice occupational health and safety	1.1 Evaluate hazard and risks. 4.2 Control hazards and risks. 4.3 Maintain occupational health and safety awareness.	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Plant Tour</li> <li>• Symposium</li> </ul>	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Interviews</li> </ul>
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## COMMON COMPETENCIES

46 Hours

UNIT OF COMPETENCY	LEARNING OUTCOMES	METHODOLOGY	ASSESSMENT APPROACH
1. Maintain an effective relationship with clients and customers	1.1 Maintain a clean and hygienic environment. 1.2 Meet client/customer requirements 1.3 Build credibility with customers/clients	<ul style="list-style-type: none"> <li>• Lecturette</li> <li>• Interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Observation and oral questioning</li> <li>• Grid questioning</li> <li>• Practical exercise</li> </ul>
2. Manage own performance	2.1 Plan for completion of own workload. 2.2 Maintain quality performance. 2.3 Build credibility with customers/clients	<ul style="list-style-type: none"> <li>• Lecturette</li> <li>• Brainstroming</li> </ul>	<ul style="list-style-type: none"> <li>• Observation and oral questioning</li> <li>• Grid questioning</li> <li>• Practical exercise</li> </ul>
3 Follow occupational health and safety policies in dental facilities	3.1 Apply workplace procedures for hazard identification and risk control 3.2 Utilize and implement strategies as directed to prevent infection in the workplace 3.3 Work in a safe manner	<ul style="list-style-type: none"> <li>• Group Discussion</li> <li>• Interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/ Questioning</li> </ul>
4 Maintain infection control in dental practice	4.1 Monitor and maintain the cleanliness of the dental laboratory rooms 4.2 Clean and maintain dental instruments and equipment 4.3 Maintain hygiene and personal protection 4.4 Dispose of dental laboratory waste safely 4.5 Disinfect and clean impressions	<ul style="list-style-type: none"> <li>• Group Discussion</li> <li>• Interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/ Questioning</li> </ul>

5 Operate a personal computer	5.1 Start and shut down the computer	<ul style="list-style-type: none"> <li>• Group Discussion</li> <li>• Interaction</li> <li>• Lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration</li> <li>• Observation</li> <li>• Interviews/ Questioning</li> <li>• Written Exam</li> </ul>
	5.2 Arrange and customize desktop display/window setting		
	5.3 Work with files and folders (or directories)		
	5.4 Work with user application programs		
	5.5 Print information		

## CORE COMPETENCIES

744 Hours

UNIT OF COMPETENCY	LEARNING OUTCOME	METHODOLOGY	ASSESSMENT APPROACH
1 Fabricate metal crown and bridge structures	1.1 Prepare sectionalized models 1.2 Wax and invest fixed partial dentures and structures 1.3 Burn-out cast and finish alloy fixed partial dentures and structures	<ul style="list-style-type: none"> <li>• Lecture</li> <li>• Discussion</li> <li>• Demo</li> </ul>	<ul style="list-style-type: none"> <li>• Written examination</li> <li>• Interview</li> </ul>
2. Fabricate ceramic restorations	2.1 Prepare sub-structures 2.2 Select and apply ceramics 2.3 Trim, shape and finish	<ul style="list-style-type: none"> <li>• Lecture/ Demonstration</li> <li>• OJT</li> </ul>	<ul style="list-style-type: none"> <li>• Written Examination</li> <li>• Demonstration</li> <li>• Observation</li> </ul>
3 Fabricate indirect composite/polymer fixed restorations	3.1 Prepare model 3.2 Fabricate restoration 3.3 Trim, shape and finish	<ul style="list-style-type: none"> <li>• Lecture/ Demonstration</li> <li>• OJT</li> </ul>	<ul style="list-style-type: none"> <li>• Written Examination</li> <li>• Demonstration</li> <li>• Observation</li> </ul>
4 Join alloy structures	4.1 Solder components 4.2 Weld components	<ul style="list-style-type: none"> <li>• Lecture/ Demonstration</li> <li>• OJT</li> </ul>	<ul style="list-style-type: none"> <li>• Written Examination</li> <li>• Demonstration</li> <li>• Observation</li> </ul>

### 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 dualized 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 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 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 an 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, or audio, video or computer technologies.
- Project-Based Instruction is an authentic instructional model or strategy in which students plan, implement and evaluate projects that have real world applicants.

### 3.3 TRAINEE ENTRY REQUIREMENTS:

Trainees or students wishing to gain entry into these qualifications should possess the following requirements:

- Must be 18 years old
- Must be a holder of a Dental Laboratory Technology Services NCI or its equivalent
- Must be physically fit and mentally fit (specifically on eye and hand coordination)
- Must be able to communicate either oral or written
- Must be at least a high school graduate or its equivalent

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

### 3.4 TOOLS, MATERIALS AND EQUIPMENT: DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures/Restorations) NC II

Recommended list of tools, equipment and materials for the training of 25 trainees for **DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures/Restorations) NC II** are as follows:

TOOLS		EQUIPMENT		MATERIALS	
Qty.	Description	Qty.	Description	Qty.	Description
5 pcs.	Die Saw	5 pcs.	Micro Motor	1 btl.	Die Hardener/Conditioner (120 ml.)
25 pcs.	Die Opening Burs	2 pcs.	High Speed Grinder	1 btl.	Die Spacer
25 pcs.	Lead Free Pencil	1 pc.	Casting Machine and accessories	1 btl.	Die Separator
25 pcs.	Scalpel	2 pcs.	Lathe Machine	1 box	Wax (assorted)
25 pcs.	Bunsen Burner	2 pcs.	Alloy High Speed Grinder	2 tanks	LPG
25 sets	Wax Instruments (assorted)	2 pcs.	Cast Trimmer	1 tank	Oxygen
25 pcs.	Alcohol Torch	5 pcs.	Wax Pot	1 kilo	Metal Alloy (non-precious/precious)
25 pcs.	Caliper	1 pc.	Vacuum Mixer	25 kilos	Investment
25 pcs.	Brushes (assorted)	1 pc.	Steamer	25 kilos	Gypsum Products (type 1,2,3,4)
25 pcs.	Glass Slab	1 pc.	Burn-Out Oven and Accessories	25 pcs.	Cutting Discs

TOOLS		EQUIPMENT		MATERIALS	
Qty.	Description	Qty.	Description	Qty.	Description
25 sets	Ceramic Hand Instruments	1 pc.	Sand Blaster and Accessories	25 pcs.	<i>Abrasives (assorted)</i>
5 pcs.	Laboratory Scissors	1 pc.	Casting Torch	25 pcs.	Polishing Materials (assorted)
2 sets	Shade Guide	1 pc.	Weighing Scale	25 pcs.	Articulating Paper
2 pcs.	Magnifiers	1pc.	Porcelain Furnace	25 pcs.	Contact Markers
25 sets	Safety Accessories	1 pc.	Ultrasonic	25 starter sets	Ceramic Powders and Paste (assorted)
25 pcs.	Lab Pans	2 pcs.	Pressure Pot and Accessories	1 kilo	Duplicating Gel
25 pcs.	Casting Rings	2 pcs.	Air Turbine	1 kilo	Acrylic Products (assorted)
25 pcs.	Sprue Base	1 pc.	Air Compressor (2 Hp)	1 set	Soldering Materials
25 pcs.	Hemostat	1 pc.	Soldering Torch	24 syringes	Composite resin
25 pcs.	Cement Spatula	1 pc.	Vacuum Forming Machine and Accessories	1kl.	pumice
		1 pc.	Light Curing Machine and Accessories	5 kls.	Aluminum oxide
		1 pc.	Surveyor	5 btl.	debubblelizer
				2 btl.	Bonding agent
		1 unit	Pinblaster		
		2 units	Vibrator		
		1 box	Wax (assorted)		

### 3.5 TRAINING FACILITIES

#### DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures/Restorations) NC II

The Dental Laboratory Technology Services (Fixed Dentures/Restorations) Learning Facility must be of concrete structure. Based on class size of **25** students / trainees the space requirements for the teaching / learning and curriculum areas are as follows.

TEACHING / LEARNING AREAS	SIZE IN METERS	AREA IN S. METERS	TOTAL AREA IN SQ. METERS
Student/Trainee Performance Space (S/TPS)	5 X 4	20	20
Learning Resource Center (LRC)	3 X 5	15	15
Circulation Area		21	21
Separate Restrooms for Male and Female Trainees/Students	2 X 5	10	10
<b>Total Workshop Area</b>			<b>75 sq. m.</b>



### **3.6 TRAINER QUALIFICATION (TQ II)**

- Must have completed Trainer's Training Methodology Course (TTMC) or its equivalent
- Must be a holder of a Dental Laboratory Technology Services (Fixed Dentures/Restorations) NC II or its equivalent
- Must be able to communicate effectively both orally and in written form
- Must be physically, emotionally, psychologically and mentally fit
- Must have a minimum of five (5) years experience as a dental technician

### **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 Dental Laboratory Technology Services (Fixed Dentures/Restorations) NC II, the candidate must demonstrate competence in all the units of competency listed in Section 1. Successful candidates shall be awarded a National Certificate signed by the TESDA Director General.
- 4.2 The qualification of Dental Laboratory Technology Services (Fixed Dentures/Restorations) NC II may be attained through –
  - 4.2.1 Accumulation of Certificates of Competency (COCs) in the following areas –
    - 4.2.1.1 Dental Laboratory Technology Services (Fixed Dentures/Restorations) NC II
      - Perform fabrication of crown and bridge
        - Fabricate metal crown and bridge structures
        - Join alloy structures
      - Fabricate ceramic restorations
      - Fabricate indirect composite/polymer fixed restorations
    - 4.2.2 Demonstration of competence through project-type assessment covering all required units of qualification
- 4.3 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.
- 4.4 The following are qualified to apply for assessment and certification:
  - 4.4.1 Graduates of formal, non-formal and informal including enterprise-based training programs.
  - 4.4.2 Experienced Workers (wage employed or self – employed)
- 4.5 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 – HEALTH CARE SECTOR (DENTAL LABORATORY TECHNOLOGY SERVICES (Fixed Dentures/Restorations) NC II)

### BASIC COMPETENCIES

Receive and respond to workplace communication	Work with others	Demonstrate work values	Practice basic housekeeping procedures	Participate in workplace communication	Work in team environment	Practice career professionalism
Practice occupational health and safety procedures	Lead workplace communication	Lead small team	Develop and practice negotiation skills	Solve problems related to work activities	Use mathematical concepts and techniques	Use relevant technologies
Utilize specialized communication skills	Develop teams and individuals	Apply problem solving techniques in the workplace	Collect, analyze and organize information	Plan and organize work	Promote environmental protection	

### COMMON COMPETENCIES

Implement and monitor infection control policies and procedures	Respond effectively to difficult/challenging behavior	Apply basic first aid	Maintain high standard of patient services	Process reusable instruments and equipment in health work	Prepare for and assist with oral health care procedures	Assist with administration in dental practice
Maintain an effective relationship with customers and clients	Manage own performance	Follow occupational health and safety policies in dental practice	Maintain infection control in dental practice			

### CORE COMPETENCIES

Provide care and support to infants and toddlers	Provide care and support to children	Foster social, intellectual, creative and emotional development of children	Foster the physical development of children	Provide care and support to elderly	Provide care and support to people with special needs	Maintain a healthy and safe environment
Respond to emergency	Clean living room, dining room, bedrooms, toilet and bathroom	Wash and iron clothes, linen and fabric	Prepare hot and cold meals	Prepare and maintain beds	Collect and maintain linen stocks at end users location	Assist in patient mobility
Assist in transporting patients	Assist in bio-psychosocial support care of patients	Handle waste in a health care environment	Install biomedical equipment	Perform corrective maintenance on biomedical equipment	Perform preventive maintenance on biomedical equipment	Repair biomedical equipment
Perform basic life support	Maintain life support equipment and resources	Implement safe access and extrication procedures in an emergency	Manage request for ambulance service	Allocate ambulance service resources	Coordinate emergency resources	Deliver basic ambulance communication skills
Supervise on-road operations	Manage the scene of a special event	Manage routine scene	Deliver pre-hospital patient care	Manage ambulance operations	Transport emergency patients	Transport non-emergency patients

Drive vehicles under operational conditions	Work within a holistic therapeutic massage framework	Perform therapeutic massage assessment	Plan the therapeutic massage treatment	Implement therapeutic massage treatment	Perform remedial therapeutic massage treatment	Work within a community development framework
Prepare for work in the community service industry	Support community resources	Provide primary/residential care	Support community participation	Recruit and coordinate volunteers	Respond holistically to client issues	Develop and provide health education program in the community
Implement health promotion and community interventions	Fabricate models	Fabricate custom impression trays	Fabricate registration bite rims	Articulate models and transfer records	Fabricate mouthguard	Fabricate metal crown and bridge structures
Fabricate ceramic restorations	Fabricate indirect composite/polymer fixed restorations	Join alloy structures				

## DEFINITION OF TERMS

<b>ABUTMENT</b>	- Tooth or teeth that support a fixed or removable bridge
<b>ANTERIOR TEETH</b>	- the six upper or six lower front teeth (canines, laterals & central incisors)
<b>APEX</b>	- the tip of the root of a tooth
<b>ARCH</b>	- describes the alignment of the upper or lower teeth
<b>ARTICULATE</b>	- to unite by forming a joint or joints
<b>ARTICULATOR</b>	- a mechanical device representing the temporomandibular joints and jaw members to which casts of the mouth
<b>BASE</b>	- cement placed under a dental restoration to insulate the pulp (nerve chamber)
<b>BITE</b>	- relationship of the upper and lower teeth on closure (occlusion)
<b>BONDING</b>	- adhesive dental restoration technique; a tooth-colored composite resin to repair and/or change the color or shape of a tooth
<b>BRACES</b>	- devices used by orthodontists to gradually reposition teeth to a more favorable alignment
<b>BRIDGE</b>	- stationary dental prosthesis (appliance) fixed to teeth adjacent to a space; replaces one or more missing teeth, cemented or bonded to supporting teeth or implants adjacent to the space
<b>CANTILEVER BRIDGE</b>	- fixed bridge that attaches to adjacent teeth only on one end
<b>CAP</b>	- common term for dental crown
<b>CLASP</b>	- device that retains a removable partial denture to stationary teeth; can be metal or acrylic (matches teeth and gums)
<b>CROSS BITE</b>	- reverse biting relationship of upper and lower teeth; aka "under bite," as in Class III malocclusion (prognathic jaw)
<b>CROWN</b>	(1) the portion of a tooth above the gum line; (2) dental restoration covering all or most of the natural tooth
<b>CUSTOM IMPRESSION TRAY</b>	- an impression tray made from a preliminary impression used to make the final impression
<b>DENTAL WAXES</b>	- wax compounds used in dentistry are mixtures of individual waxes of materials or synthetic origin. As with all other dental materials, each component in the mixture is selected to give specific properties best suited for the procedure being performed
<b>DENTURE</b>	- removable (partial or complete) set of artificial teeth

<b>DIASTEMA</b>	- open space between teeth
<b>DISTAL</b>	- farthest from any point of reference
<b>DUPLICATE</b>	- identically copied from an original
<b>FABRICATE</b>	- to make; create; to construct by combining or assembling
<b>FACE-BOW FORK</b>	- a device used to attach the face-bow to an occlusion rim for a face-bow transfer
<b>FACING</b>	- tooth colored overlay on the visible portion of a crown; may be acrylic, composite or porcelain
<b>FILLING</b>	- restoration of lost tooth structure with metal, porcelain or resin materials
<b>FULL DENTURE</b>	- removable dental prosthesis (appliance) replacing all upper or lower teeth
<b>FULL MOUTH RECONSTRUCTION</b>	- extensive restorations of natural teeth with crowns and or fixed bridges to manage restorative and bite problems.
<b>GYPHUM</b>	- is the common name for calcium sulfate dehydrate. Gypsum products are more frequently used on laboratory procedures than any other single group of compounds. Controlled variations in the manufacturing of gypsum products yield a group of dental materials including plaster, artificial stone (hydrosol), disc stone, casting investment and soldering investment
<b>IMPRESSION</b>	- mold made of the teeth and soft tissues
<b>INLAY</b>	- indirect – filling made by a dental laboratory that is cemented or bonded into place, direct – placement of dental composite resin, or porcelain restoration at chairside
<b>INTEROCCLUSAL</b>	- space between upper and lower teeth
<b>JACKET</b>	- crown for a front tooth, usually made of porcelain
<b>LAMINATE</b>	- thin plastic or porcelain veneer produced in a dental laboratory and then bonded to a tooth
<b>MALOCCLUSION</b>	- “bad bite” or misalignment of the upper and lower teeth
<b>MARGIN</b>	- interface between a restoration and tooth structure
<b>MARYLAND BRIDGE</b>	- a bridge that is bonded to the back of the adjacent teeth; requires minimum tooth reduction
<b>MODEL</b>	- a material used extensively for making impressions. It contains shellac, talc, glycerin, wax, tallow and palm oil
<b>OVERBITE</b>	- vertical overlap of the front teeth; deep bite
<b>PARTIAL DENTURE</b>	- removable dental prosthesis (appliance) replacing one or more natural teeth
<b>PONTIC</b>	- replacement tooth mounted on a fixed or removal appliance
<b>PORCELAIN CROWN</b>	- all porcelain restoration covering the coronal portion of tooth (above the gum line)

- PORCELAIN FUSED TO METAL (PFM) CROWN** - restoration with metal coping (for strength) covered by porcelain (for appearance)
- PORCELAIN INLAY OR ONLAY** - tooth-colored restoration made of porcelain, cemented or bonded in place
- PORCELAIN VENEERS** - a thin layer of porcelain, fabricated by a laboratory) bonded to a natural tooth to replace lost tooth structure, close spaces, straighten teeth or change color and/or shape
- PROSTHESIS** - an artificial appliance for the replacement for a body part, tooth or teeth
- SOLDERING INVESTMENT** - a soldering investment is similar in composition to a casting investment that has a
- SPLINT** - connection of two or more teeth so they function as a stronger single structure

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