



COMPETENCY STANDARD

Web Design

Level: 03

(ICT Sector)

Competency Standard Code: CS-ICT-WD-L3-EN-V2



**National Skills Development Authority
Chief Adviser's Office
Government of the People's Republic of Bangladesh**

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This Competency Standard for Web Design is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order to meet the qualification of individuals who graduated through the established standard via competency-based assessment for a relevant job.

This document has been developed by NSDA in association with ICT Sector ISC, industry representatives, academia, related specialist, trainer and related employee.

Public and private institutions may use the information contained in this standard for activities benefitting Bangladesh.

Introduction

The NSDA aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skills ecosystem and delivery mechanism through a combination of well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program. "Web Design" is selected as one of the priority occupations of ICT Sector. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of trainees enrolled in Skills Training. Trainees who successfully pass the assessment will receive a qualification in the Bangladesh National Qualification Framework (BNQF) and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

Overview

A competency standard is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of representative from NSDA, Key Institutions, ISC, and industry experts to identify the competencies required of an occupation in Informal Sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. CS acknowledge that people can achieve technical and vocational competency in many ways by emphasizing what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guides

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide.

Competency Standards for National Skills Certificate – Level-3 in Web Design in ICT Sector

Level Descriptors of BNQF 1-6

| Level & Job Classification | Knowledge Domain | Skills Domain | Responsibility Domain |
|---|--|---|--|
| 6-Mid-Level Manager/ Sub Assistant Engineer | Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, compare, relate and evaluate. | Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users. | Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups. |
| 5-Supervisor | Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes. | Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners. | Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management. |
| 4-Highly Skilled Worker | Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge. | A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements. | Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group. |
| 3-Skilled Worker | Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements. | Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace | Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination. |
| 2-Semi Skilled Worker | Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions. | Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity. | Work or study under supervision in a structured context with limited scope of manipulation |
| 1 –Basic Skilled Worker | Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions. | Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision. | Work under direct supervision in a structured context with limited range of responsibilities. |

List of Abbreviations

| General | |
|----------------------------|--|
| NSDA | National Skills Development Authority |
| BMET | Bureau of Manpower Employment and Training |
| ILO | International Labor Organization |
| ISC | Industry Skills Council |
| NPVC | National Pre-Vocation Certificate |
| NSQF | National Skills Qualifications Framework |
| PPP | Public Private Partnership |
| SCVC | Standards and Curriculum Validation Committee |
| SEIP | Skills for Employment Investment Program |
| STP | Skills Training Provider |
| UoC | Unit of Competency |
| GU | Generic Unit |
| SU | Sector Unit |
| OU | Occupation Unit |
| Occupation Specific | |
| GUI | Graphical User Interface |
| ESD | Electro-static Discharge |
| ICT | Information Communication Technology (ICT) |
| KPI | Key Performance Indicator |
| LCD | Liquid Crystal Display |
| OSH | Occupational safety and health |
| PPE | Personal protective equipment |
| RAM | Random Access Memory |
| USB | Universal serial bus |
| CO | Computer Operation |
| OS | Operating System |
| VDU | Visual Display Unit |
| CD | Compact Disc |
| DVD | Digital Video Disc" or "Digital Versatile Disc." |
| ASCII | American Standard Code for Information Interchange |
| CV | Curriculum Vitae |
| CPU | Central Processing Unit |

Approval of Competency Standard

Approved by
39th Authority Meeting of NSDA
Held on 23.01. 2025

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**Competency Standards for National Skill Certificate – 3 in
Web Design in ICT Sector**

Course Structure

| SL | Unit Code and Title | | UoC Level | Nominal Duration (Hours) |
|--|---------------------|---|-----------|--------------------------|
| Generic Units of Competencies | | | | 20 |
| 1. | GU-09-L2-V1 | Practice Negotiation Skills | 3 | 20 |
| Sector-Specific Units of Competencies | | | | 60 |
| 2. | SU-ICT-01-L2-V1 | Practice Occupational Safety and Health (OSH) Standard in ICT | 2 | 15 |
| 3. | SU-ICT-11-L2-V1 | Prepare Documents and Create Presentations for client | 3 | 45 |
| Occupation-Specific Units of Competencies | | | | 260 |
| 4. | OU-ICT-01-L3-V2 | Interpret Visual Design Principles and Apply Color Sense for Web Design | 3 | 35 |
| 5. | OU-ICT-02-L3-V2 | Setup Web Design Environment | 3 | 40 |
| 6. | OU-ICT-03-L3-V2 | Work with HTML | 3 | 60 |
| 7. | OU-ICT-04-L3-V2 | Work with CSS and use CSS framework for web design | 3 | 45 |
| 8. | OU-ICT-05-L3-V2 | Perform Design to Web | 3 | 40 |
| 9. | OU-ICT-06-L3-V2 | Work With Core JavaScript | 3 | 40 |
| Sub Total | | | | 340 |
| Workplace Visit | | | | 20 |
| Total Nominal Learning Hours | | | | 360 |

Units & Elements at Glance

Generic Units of Competencies

| Code | Unit of Competency | Elements of Competency | Duration (Hours) |
|-------------|-----------------------------|--|-------------------------|
| GU-09-L2-V1 | Practice Negotiation Skills | 1. Plan negotiations 2. Participate in negotiations | 20 |

Sector-Specific Units of Competencies

| Code | Unit of Competency | Elements of Competency | Duration (Hours) |
|-----------------|--|--|-------------------------|
| SU-ICT-10-L2-V1 | Practice Occupational Safety and Health (OSH) Standard in ICT. | 1. Identify hazards and risks in the ICT Environment 2. Apply Personal Health and Safety Practices 3. Manage and Report Hazards 4. Respond to Emergencies | 15 |
| SU-ICT-11-L2-V1 | Prepare Documents and Create Presentations for client | 1. Prepare for Document Creation 2. Create and Format MS Word Documents 3. Finalize and Save Documents 4. Prepare PowerPoint Presentations 5. Design Slide Layouts and Apply Storytelling Techniques 6. Furnish and Finalize Presentation 7. Print & Transfer Document | 45 |

Occupation Specific Units of Competencies

| Code | Unit of Competency | Elements of Competency | Duration (Hours) |
|--------------------|---|---|------------------|
| OU-ICT-WD-01-L3-V2 | Interpret Visual Design Principles and Apply Color Sense for Web Design | <ol style="list-style-type: none"> 1. Research and Analysis for identifying client needs 2. Generate Ideas and Develop Concepts 3. Sketch and visualize the concepts 4. Refine and Present Concept for final approval | 35 |
| OU-ICT-WD-02-L3-V2 | Setup Web Design Environment | <ol style="list-style-type: none"> 1. Select and Install Web Development Tools 2. Organize File and Folder Structure 3. Configure Local Development Environment 4. Configure Live Development Environment for Web Design 5. Interpret Data Layer 6. Setup Version Control for Project | 40 |
| OU-ICT-WD-03-L3-V2 | Work with HTML | <ol style="list-style-type: none"> 1. Create HTML Structure 2. Insert and Format Content 3. Create and Manage Forms 4. Ensure Accessibility and Standards Compliance | 60 |
| OU-ICT-WD-04-L3-V2 | Work with CSS and use CSS framework for web design | <ol style="list-style-type: none"> 1. Interpret and Structure CSS 2. Apply CSS for Layout and Styling 3. Implement Responsive Design Using Media Queries 4. 5. Use CSS Grid System for Layout 6. Configure CSS Frameworks 7. Design Web Pages Using CSS Frameworks 8. Test and Optimize Design | 45 |
| OU-ICT-WD-05-L3-V2 | Perform Design to Web | <ol style="list-style-type: none"> 1. Select and Install Web Development Tools 2. Export and Optimize Design Assets 3. Build Web Page Based on Design 4. Ensure Design Consistency and Optimization | 40 |

| | | | |
|--------------------|---------------------------|--|----|
| OU-ICT-WD-06-L3-V2 | Work with Core JavaScript | <ol style="list-style-type: none"> 1. Interpret JavaScript Fundamentals 2. Apply Control Structures 3. Work with Functions 4. Handle Events using DOM Manipulation | 40 |
|--------------------|---------------------------|--|----|

Generic Units of Competencies

| | |
|--------------------------------|---|
| Unit Code and Title | GU-09-L2-V1: Practice Negotiation Skills |
| Unit Descriptor | This unit covers the knowledge, skills and attitudes required to practice negotiation skills. It specifically includes – planning negotiations and participating in negotiations. |
| Nominal Hours | 20 Hours |
| Elements of Competency | <p>Performance Criteria</p> <p><u>Bold & Underlined</u> terms are elaborated in the Range of Variables Training Components</p> |
| 1. Plan negotiations | <ol style="list-style-type: none"> 1.1 Information on <u>preparing for negotiation</u> is identified and included in the plan. 1.2 Information on creating <u>non-verbal environments</u> for positive negotiating is identified and included in the plan. 1.3 Information on <u>active listening</u> is identified and included in the plan. 1.4 Information on different <u>questioning techniques</u> 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 | <ol style="list-style-type: none"> 2.1 Criteria for successful outcome are agreed upon by all parties. 2.2 Desired outcome of all parties is 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 (May include but not limited to) |
| 1. Preparing for negotiation | <ol style="list-style-type: none"> 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 <ul style="list-style-type: none"> 1.4.1 Self esteem 1.4.2 Self esteem 1.4.3 Objectivity 1.4.4 Empathy 1.4.5 Respect for others 1.5 Interpersonal skills <ul style="list-style-type: none"> 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-disclosure 1.6 Analytic skills |

| | |
|----------------------------|---|
| | <ul style="list-style-type: none"> 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 <p>1.7 Options within organization and externally for resolving conflict</p> |
| 2. Non-verbal environments | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 3.1 Attentive 3.2 Don't interrupt 3.3 Good posture 3.4 Maintain eye contact 3.5 Reflective listening |
| 4. Questioning techniques | <ul style="list-style-type: none"> 4.1 Direct 4.2 Indirect 4.3 Human Open-ended |

Evidence Guide

The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.

| | |
|-----------------------------------|---|
| 1. Critical aspects of competency | <p>The assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 2.1 Codes of practice and guidelines for the organization. 2.2 Organization policy and procedures for negotiations. 2.3 Decision-making and conflict resolution strategies and 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 skill | <ul style="list-style-type: none"> 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. Required attitude | <ul style="list-style-type: none"> 4.1 Commitment to occupational health and safety 4.1 Environmental concerns 3.2 Eagerness to learn 3.3 Tidiness and timeliness 3.4 Respect for rights of peers and seniors in workplace 3.5 Communication with peers and seniors in workplace |

| | |
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| 5. Resource implication | <p>The following resources MUST be provided:</p> <p>5.1 Workplace (actual or simulated).</p> <p>5.2 Human resources (negotiators).</p> |
| 6. Methods of assessment | <p>6.1 Demonstration with oral questioning</p> <p>6.2 On the job observation with oral questioning</p> <p>6.3 Written test</p> <p>6.4 Portfolio</p> |
| 7. Context of assessment | <p>7.1. Competency assessment must be done in a training center or in an actual or simulated work place after Completion of the training module.</p> <p>7.2. Assessment should be done by a certified assessor</p> |
| <p>Accreditation Requirements</p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under Bangladesh National Qualification Framework (BNQF). Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p> | |

Sector-Specific Units of Competencies

| | |
|--|--|
| Unit Code and Unit Title | SU-ICT-10-L2-V1: Practice Occupational Safety and Health (OSH) Standard in ICT. |
| Unit Descriptor | This unit covers the knowledge, skills, and attitudes required to Practice Occupational Safety and Health (OSH) Standards in ICT. It includes the task of identifying hazards and risk in the ICT Environment, applying Personal Health and Safety Practices, managing and reporting hazards and responding to Emergencies |
| Nominal Hours | 15 Hours |
| Elements of Competency | Performance Criteria |
| 1. Identify hazards and risks in the ICT Environment | <p>1.1 Common safety and health risks specific to IT workplaces are identified.</p> <p>1.2 Workplace types, layout, and conditions are assessed for compliance with OSH standards.</p> <p>1.3 Types and appropriate usage of Personal Protective Equipment (PPE) for IT-related tasks are identified.</p> <p>1.4 Hazards are identified in ICT environment</p> |
| 2. Apply Personal Health and Safety Practices | <p>2.1 Ergonomically sound practices are implemented, including proper workstation setup and posture.</p> <p>2.2 Preventive measures are taken to reduce physical and mental strain.</p> <p>2.3 Cleanliness and orderliness in the workplace are maintained to reduce risks.</p> <p>2.4 Personal Protective Equipment (PPE) is worn and stored properly after use.</p> <p>2.5 Workplace safety conditions are inspected, and issues are reported to the designated authority.</p> |
| 3. Manage and Report Hazards | <p>3.1 Routine checks of the immediate work area are conducted to identify hazards and risks.</p> <p>3.2 Corrective actions are taken to mitigate risks within the scope of responsibility.</p> <p>3.3 Internet and social media addiction is minimized to enhance workplace focus and safety.</p> <p>3.4 Detail records of incidents, hazards, and corrective actions are maintained as per workplace standard</p> <p>3.5 Hazards, risks, and incidents are reported accurately and promptly to the designated authority.</p> |
| 4. Respond Emergencies to | <p>4.1 Emergencies are identified and reported according to workplace protocols.</p> <p>4.2 Workplace emergency response procedures are followed effectively as per organizational policy during incidents.</p> <p>4.3 Basic first aid is administered, or assistance is sought from qualified personnel as required.</p> |
| Range of Variables | |

| Variable | Range (may include but not limited to): |
|--|---|
| 1. Common safety and health risks | 1.1 Ergonomics 1.2 Repetitive strain injuries 1.3 Eye strain 1.4 Radiation 1.5 Carpal Tunnel Syndrome 1.6 Electrical hazards. |
| 2. Workplace Type and layout | 2.1 Hardware servicing labs 2.2 Software development rooms 2.3 IT Training Lab 2.4 Server room 2.5 Networking infrastructure |
| 3. Personal Protective Equipment (PPE) | 3.1 Aprons, 3.2 Earplugs 3.3 Face mask 3.4 UV-protected eye ware 3.5 Anti-static wristband 3.6 Anti-static shoes. 3.7 Gloves |
| 4. Hazards | 4.1 Physical Hazard 4.1. Cables running across the floor 4.2. Slippery floor 4.3. Dust 4.2 Mechanical Hazard 4.2.1. Computer case 4.3 Chemical Hazard 4.3.1. Display cleaning chemicals 4.3.2. Keyboard cleaning chemical |
| 5. Ergonomically sound practices | 5.1 Using adjustable seating 5.2 Maintaining proper posture 5.3 Ensuring proper lighting. |
| 6. Preventive measures | 6.1. Regular breaks 6.2. Adequate lighting 6.3. Time management 6.4. Ergonomic furniture 6.5. Adequate ventilation |
| 7. Emergencies | 7.1 Equipment failures/malfunctions 7.2 Fires 7.3 Electrical fires 7.4 Explosions 7.5 Natural disasters. |
| 8. Workplace emergency response procedures | 8.1 First aid 8.2 Emergency treatment 8.3 Firefighting protocols 8.4 Evacuation plans |

Evidence Guide

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| 1. Critical aspects of competency | Assessment required evidence that the candidate: 1.1 Identified and mitigated OSH issues in IT workplaces. |
|-----------------------------------|---|

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| | <ul style="list-style-type: none"> 1.2 Ensured a safe and hygienic work environment. 1.3 Reported hazards and followed emergency procedures. 1.4 Prevented and addressed social media/internet addiction. 1.5 Demonstrate the ability to identify and manage workplace hazards. 1.6 Demonstrated observance of safety procedures and ergonomic practices. 1.7 Followed emergency response procedures effectively. |
| 2. Underpinning knowledge | <ul style="list-style-type: none"> 2.1 OSH policies, regulations, and standards for IT workplaces. 2.2 Common hazards in IT environments 2.3 Emergency response procedures and safety protocols. 2.4 Principles of Occupational Safety and Health (OSH). 2.5 Common IT workplace hazards and associated risks 2.6 Workplace safety regulations and organizational policies |
| 3. Underpinning skills | <ul style="list-style-type: none"> 3.1 Safe operation and maintenance of IT equipment and tools 3.2 Practical application of ergonomic practices 3.3 Documenting incidents and communicating with relevant personnel 3.4 Effective communication of safety concerns to peers and supervisors 3.5 Ability to respond promptly to emergencies |
| 4. Required attitudes | <ul style="list-style-type: none"> 4.1 Commitment to maintaining a safe and healthy work environment 4.2 Proactive approach to identifying and mitigating risks 4.3 Accountability for personal and workplace safety 4.4 Cooperation and respect for peers, supervisors, and safety policies 4.5 Willingness to participate in training and continuous improvement efforts 4.6 Mindfulness to avoid workplace distractions like excessive use of social media |
| 5. Resource implication | <ul style="list-style-type: none"> 5.1 IT workplace setup (actual or simulated). 5.2 PPE and safety equipment. 5.3 Workplace policies and emergency response documentation. |
| 6. Methods of Assessment | <ul style="list-style-type: none"> 6.1 Written Test 6.2 Demonstration 6.3 Oral Questioning |
| 7. Context of Assessment | <ul style="list-style-type: none"> 7.1. Competency assessment must be done in NSDA accredited centers. 7.2. Assessment should be done by NSDA-certified/ nominated assessor |
| <p>Accreditation Requirements</p> <p>Training Providers must be accredited by the National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p> | |

| | |
|--|---|
| Unit Code Title | SU-ICT-11-L2-V1: Prepare Documents and Create Presentations for client |
| Unit Descriptor | This unit covers the competencies (knowledge, skills and attitudes) required to create, format, and finalize professional documents and preparing PowerPoint Presentations and designing slide layouts and applying storytelling Techniques. It also includes presenting designs effectively to stakeholders and gathering feedback. |
| Nominal Hours | 45 Hours |
| Elements of Competency | <p>Performance Criteria Bold & Underlined terms are elaborated in the Range of Variables)</p> |
| 1. Prepare for Document Creation | <p>1.1 Safe work practices are followed and personal protective equipment (PPE) are worn as per workplace safety standards.</p> <p>1.2 Work areas are maintained in a clean and organized manner to prevent accidents and hazards.</p> <p>1.3 Necessary Software is checked and ensured operational as per job requirement.</p> <p>1.4 The availability of required fonts for typing of Bangla and English are ensured.</p> <p>1.5 Job requirements are identified.</p> <p>1.6 Necessary resources are gathered and organized.</p> <p>1.7 Software settings and ribbons are configured according to project needs.</p> |
| 2. Create and Format MS Word Documents | <p>2.1 A blank document is prepared using a template or custom layout.</p> <p>2.2 Contents are inserted and arranged logically.</p> <p>2.3 Page layout is set as per job requirements.</p> <p>2.4 Styles, headings, and subheadings are applied consistently throughout the document.</p> <p>2.5 Tables are designed and formatted for readability and aesthetic appeal.</p> <p>2.6 Internal links, page numbers, and references are added as needed.</p> |
| 3. Finalize and Save Documents | <p>3.1 The document is reviewed for consistency in formatting, spelling and grammar.</p> <p>3.2 Accessibility features, such as alt text for images and proper heading structure are checked.</p> <p>3.3 The finalized document is exported and saved in an appropriate file format suitable for delivery.</p> |

| | |
|---|---|
| | <p>3.4 Backup copies of the document are saved systematically in designated storage locations for efficient retrieval.</p> <p>3.5 <u>Backup strategies</u> are followed to prevent data loss.</p> |
| 4. Prepare PowerPoint Presentations | <p>4.1 New presentation file from a blank template or a library are created as required.</p> <p>4.2 Slide size is selected based on presentation needs.</p> <p>4.3 Presentation requirements, including audience needs and objectives are identified.</p> <p>4.4 A slide master is created or customized to ensure consistency in design and branding.</p> <p>4.5 <u>Contents for slide</u> for the presentation is collected and organized.</p> |
| 5. Design Slide Layouts and Apply Storytelling Techniques | <p>5.1 Slides are inserted with suitable layouts according to presentation requirements.</p> <p>5.2 Slide layouts are designed with appropriate fonts, colors, and visual hierarchy.</p> <p>5.3 Key messages are highlighted using concise text and <u>visual elements</u>.</p> <p>5.4 <u>Storytelling techniques</u> are applied to create a logical flow in the presentation.</p> <p>5.5 Contents are selected and added to emphasize key points.</p> <p>5.6 The use of visual aids is planned and integrated into the presentation in a logical and timely manner.</p> |
| 6. Furnish and Finalize Presentation | <p>6.1 <u>Animations</u> and transitions are added (if needed) to enhance engagement.</p> <p>6.2 Slides are checked with the <u>presentation view</u> for review.</p> <p>6.3 Slides are reviewed for consistency and readability to branding guidelines.</p> <p>6.4 Feedback from peers or stakeholders is received and prioritized to determine the necessary revisions.</p> <p>6.5 Revisions are made based on the feedback received.</p> <p>6.6 Collaboration with peers and stakeholders is maintained throughout the revision process.</p> <p>6.7 The finalized presentation is exported and saved in the <u>required format</u> suitable for delivery.</p> <p>6.8 Backup copies of the document are saved securely to prevent data loss.</p> |
| 7. Print & Transfer Document | <p>7.1 The printer is selected, and <u>print settings</u> are verified based on document requirements.</p> <p>7.2 The appropriate paper size is confirmed to meet the desired output.</p> <p>7.3 The print preview is reviewed to ensure accuracy and alignment.</p> <p>7.4 The document is printed following the approved settings.</p> <p>7.5 The document is transferred securely using suitable <u>storage media</u>.</p> |

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| 8 Deliver Presentation and Gather Feedback | <ul style="list-style-type: none"> 8.1 The presentation is delivered confidently using appropriate visual aids and speaking techniques. 8.2 Feedback from stakeholders is gathered systematically during or after the presentation. 8.3 The feedback is analyzed and used to refine the presentation or future designs. 8.4 Potential areas for improvement in the presentation are identified based on the feedback received. 8.5 Feedback is integrated into future presentations to align with workplace expectations and stakeholder requirements. |
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Range of Variables

| Variable | Range (may include but not limited to): |
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| 1. Necessary Software | <ul style="list-style-type: none"> 1.1 Word Processing Application Software <ul style="list-style-type: none"> 1.1.1. Microsoft Word 1.1.2. LibreOffice Writer 1.1.3. WPS Office Free Writer 1.1.4. Google Doc 1.2 Typing Tutor Software for English and Bengali 1.3 Bangla typing Software <ul style="list-style-type: none"> a. Bijoy b. Avro |
| 2. Job requirements | <ul style="list-style-type: none"> 2.1 Type of document <ul style="list-style-type: none"> 2.1.1 Business or client proposals 2.1.2 Contracts 2.1.3 Product catalogs showcasing descriptions 2.1.4 Annual reports, project updates 2.1.5 Informational brochures for marketing purposes 2.1.6 Simple one-page documents for promotions 2.1.7 Newsletters (Periodical updates for customers) 2.1.8 Custom-designed templates 2.2 Audience 2.3 Branding guidelines |
| 3. Necessary resources | <ul style="list-style-type: none"> 3.1 Templates 3.2 Text 3.3 Images 3.4 Charts |
| 4. Contents | <ul style="list-style-type: none"> 4.1 Text 4.2 Images 4.3 Charts 4.4 Shapes 4.5 Infographics 4.6 Text Box 4.7 Symbols |

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| 5. Page layout | 5.1 Page Orientations 5.2 Page Size 5.3 Margin <ul style="list-style-type: none"> 5.3.1 Top 5.3.2 Bottom 5.3.3 Left 5.3.4 Right 5.4 Header and Footer 5.5 Page Number 5.6 Columns |
| 6. Formatting | 6.1 Font <ul style="list-style-type: none"> 6.1.1 Font Face, Size, Color 6.1.2 Font Style (Bold, Italic, Underline) 6.2 Paragraph <ul style="list-style-type: none"> 6.2.1 Alignment 6.2.2 Indentation 6.3 Listing (Bullet, Numbering) 6.4 Line Spacing 6.5 Image size with wrapping 6.6 Format Painter |
| 7. File Format | 7.1 .docx 7.2 .pdf |
| 8. Backup strategies | 8.1 Saving multiple copies on <ul style="list-style-type: none"> 8.1.1 Secure physical 8.1.2 Cloud storage |
| 9. Contents for slide | 9.1 Text 9.2 Table 9.3 Illustrations <ul style="list-style-type: none"> 9.3.1 Picture 9.3.2 Shapes 9.3.3 Text Box 9.3.4 SmartArt 9.3.5 Chart 9.4 Symbols 9.5 Media <ul style="list-style-type: none"> 9.5.1 Audio 9.5.2 Video |
| 10. Visual Element | 10.1 Charts 10.2 Graphs 10.3 Infographics 10.4 Icons 10.5 Logos 10.6 High-resolution images |

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| 11. Storytelling Techniques | <ul style="list-style-type: none"> 11.1 Narrative Structure <ul style="list-style-type: none"> 11.1.1 Beginning 11.1.2 Middle and end 11.1.3 problem-solution format 11.2 Audience Focus <ul style="list-style-type: none"> 11.2.1 Tailored messages 11.2.2 empathy-driven content 11.2.3 relatable examples 11.3 Visual Hierarchy <ul style="list-style-type: none"> 11.3.1 One idea per slide 11.3.2 emphasized key points 11.3.3 logical flow 11.4 Emotional Engagement <ul style="list-style-type: none"> 11.4.1 Use of case studies 11.4.2 Testimonials 11.4.3 humor 11.4.4 and appeals to values 11.5 Data Visualization <ul style="list-style-type: none"> 11.5.1 Infographics 11.5.2 Charts and diagrams to simplify complex ideas 11.6 Analogies and Metaphors <ul style="list-style-type: none"> 11.6.1 Simplifying concepts by relating them to everyday ideas 11.7 Transitions <ul style="list-style-type: none"> 11.7.1 Smooth slide transitions and references to previous points to maintain coherence. 11.8 Call to Action (CTA) <ul style="list-style-type: none"> 11.8.1 Clear next steps or recommendations presented in the conclusion |
| 12. Animation | <ul style="list-style-type: none"> 12.1 Entrance 12.2 Emphasis 12.3 Motion Path 12.4 Exit |
| 13. Presentation view | <ul style="list-style-type: none"> 13.1 From beginning 13.2 From Current slide |
| 14. Required Format | <ul style="list-style-type: none"> 14.1 .pptx 14.2 .pptm 14.3 .ppt 14.4 .pdf |
| 15. Print Settings | <ul style="list-style-type: none"> 15.1 Paper size 15.2 Single/Both side Print. 15.3 Odd/Even Page print 15.4 Collated 15.5 Page Orientation 15.6 Margins 15.7 Page Per sheet |

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| 16. Storage Media | 16.1 USB Pen drive 16.2 Portable Hard drive 16.3 Optical Disk |
| 17. Stakeholders | 17.1 Clients 17.2 Supervisors 17.3 Team members 17.4 Marketing personnel |

Evidence Guide

The evidence must be authentic, valid, sufficient and meet all requirements of current version of the Unit of Competency.

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| 1. Critical aspects of competency | <p>The assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Prepared documents that adhere to formatting and branding requirements. 1.2 Designed slides that aligned with audience objectives and visual storytelling principles. 1.3 Ensured consistency and clarity in both documents and presentations. 1.4 Delivered professional presentations confidently to stakeholders. 1.5 Gathered and utilized stakeholder feedback to improve designs and processes. |
| 2. Underpinning knowledge | <ul style="list-style-type: none"> 2.1 Knowledge of Occupational Health and Safety (OHS) principles and their application in the workplace. 2.2 Identification and management of hazards specific to IT workplaces. 2.3 Understanding the structure and layout of a keyboard for efficient operation 2.4 Principles of document formatting, layout design, and visual hierarchy. 2.5 Concepts of margin settings and page layout adjustments for document formatting. 2.6 Familiarity with different types of documents, including their purposes and formats. 2.7 Knowledge of various file formats and extensions for saving and sharing files. 2.8 Differences between "Save" and "Save As" functions in document management. 2.9 Understanding different types of presentations and their uses in professional settings. 2.10 File formats/extensions used for saving presentations. 2.11 Procedures for printing slides, including layout and configuration options. 2.12 Appropriate use of slide transitions, animations, and motion paths to enhance presentations. |

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| | <p>2.13 Techniques for integrating storytelling into presentations.</p> <p>2.14 Best practices for creating accessible and professional documents and presentations.</p> <p>2.15 Methods for gathering, analyzing, and incorporating stakeholder feedback.</p> <p>2.16 Steps to maintain a clean and orderly workplace and ensure equipment is well-maintained.</p> |
| 3. Underpinning skills | <p>3.1 Preparing and customizing documents with styles, layouts, and visual elements.</p> <p>3.2 Designing slides that use visual storytelling to enhance audience engagement.</p> <p>3.3 Reviewing and refining documents and presentations based on stakeholder input.</p> <p>3.4 Exporting and sharing files in various formats suitable for digital or print use.</p> <p>3.5 Delivering confident presentations while interacting effectively with stakeholders.</p> |
| 4. Required attitudes | <p>4.1 Commitment to occupational safety and health.</p> <p>4.2 Commitment to producing high-quality and professional documents and presentations.</p> <p>4.3 Attention to detail to ensure accuracy and consistency in formatting and design.</p> <p>4.4 Creativity and innovation in visual design and storytelling approaches.</p> <p>4.5 Willingness to adapt to feedback and continuously improve designs.</p> <p>4.6 Discipline in meeting deadlines and managing time effectively.</p> <p>4.7 Proactive approach to staying updated on design trends, tools, and software.</p> <p>4.8 Strong sense of organization and cleanliness in managing files, tools, and workspaces.</p> <p>4.9 Collaborative mindset to work effectively with team members and stakeholders.</p> <p>4.10 Patience and resilience when resolving technical issues or revising work.</p> <p>4.11 Professionalism in communicating with clients and presenting designs confidently.</p> |
| 5. Resource implication | <p>The following resources must be provided:</p> <p>5.1 Workplace (actual or simulated).</p> <p>5.2 Tools, equipment and physical facilities appropriate to perform activities.</p> <p>5.3 Materials consumable to perform activities.</p> |

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| 6. Methods of assessment | <p>Methods of assessment may include but not limited to:</p> <ul style="list-style-type: none"> 6.1 Demonstration with oral questioning 6.2 On the job observation with oral questioning 6.3 Written test 6.4 Portfolio |
| 7. Context of assessment | <ul style="list-style-type: none"> 7.1 Competency assessment must be done in NSDA accredited center. 7.2 Assessment should be done by NSDA-certified/nominated assessor |
| <p>Accreditation Requirements</p> <p>Training Providers must be accredited by the National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p> | |

Occupation-Specific Units of Competencies

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| Unit Code and Title | OU-ICT-WD-01-L3-V2: Interpret Visual Design Principles and Apply Color Sense for Web Design |
| Unit Descriptor | This unit covers the foundational visual design knowledge and skills required for effective web design. It includes interpreting design principles for web layouts, explaining visual design elements within interactive interfaces, applying color theory for user experience (UX), and preparing web-safe color schemes. The unit emphasizes usability, aesthetics, accessibility, and digital responsiveness. |
| Nominal Hours | 35 Hours |
| Elements of Competency | <p>Performance Criteria</p> <p><u>Bold</u> and <u>Underlined</u> terms are elaborated in the Range of Variables</p> |
| 1. Interpret Design Principles for Web Layout | <p>1.1 Web design principles are identified and explained in the context of user interface (UI).</p> <p>1.2 Application of design principles is analyzed from existing website or web application layouts.</p> <p>1.3 Misuse of web layout principles is identified, and corrective design decisions are proposed.</p> <p>1.4 Consistency, responsiveness, and content readability are evaluated against user-centered design standards.</p> <p>1.5 Design improvements are recommended to enhance layout functionality and aesthetics.</p> |
| 2. Explain the Elements of Visual Design in Web Interfaces | <p>2.1. Core <u>visual elements</u> are identified within UI design.</p> <p>2.2. Relationships between visual elements are interpreted for clarity, visual hierarchy, and flow.</p> <p>2.3. Use of imagery, shapes, and text in web environments is analyzed for consistency and branding.</p> <p>2.4. Grid systems, containers, and modular design approaches are checked for structure and alignment.</p> <p>2.5. <u>Interactive visual elements</u> are interpreted for usability and feedback.</p> |
| 3. Interpret Color Concepts for the Web | <p>3.1 Color theory is explained in the context of screen-based design.</p> <p>3.2 Web-safe color palettes and accessibility-compliant combinations are identified.</p> <p>3.3 Color modes are compared and used according to web requirements.</p> <p>3.4 Color psychology is interpreted to align with brand tone and user emotion.</p> <p>3.5 Color use is analyzed for sufficient contrast, accessibility (WCAG), and user engagement.</p> |

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| | 3.6 Browser and device color rendering differences are explained. |
| 4. Prepare and Apply Color for Web Design Projects | <p>4.1 Primary, secondary, and tertiary colors are selected or created using color tools and libraries.</p> <p>4.2 Tints, shades, and tones are prepared to ensure visual hierarchy and user guidance.</p> <p>4.3 Color schemes are generated for layout sections.</p> <p>4.4 Chosen colors are tested across devices for consistency and accessibility.</p> <p>4.5 Color usage is documented in a design system or style guide for web implementation.</p> <p>4.6 Contrast and background overlays are adjusted for legibility and user interaction clarity.</p> |

Range of Variables

| Variables | Range (may include but not limited to): |
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| 1. Web design principles | <p>1.1 Grid Systems</p> <p>1.2 Balance</p> <p>1.3 Contrast</p> <p>1.4 Emphasis</p> <p>1.5 Proximity</p> <p>1.6 Proportion</p> <p>1.7 Hierarchy</p> <p>1.8 Repetition</p> <p>1.9 Alignment</p> <p>1.10 Unity</p> <p>1.11 Whitespace</p> |
| 2. Visual elements | <p>2.1 Interactive Components</p> <p>2.2 Text</p> <p>2.3 Image</p> <p>2.4 Line</p> <p>2.5 Shape</p> <p>2.6 Form</p> <p>2.7 Space</p> <p>2.8 Icon</p> <p>2.9 Typography</p> |
| 3. Interactive visual elements | <p>3.1 Buttons</p> <p>3.2 Navigation menus</p> <p>3.3 Hover states</p> <p>3.4 Click effects</p> <p>3.5 Dropdowns</p> <p>3.6 Toggles and switches</p> <p>3.7 Tabs</p> <p>3.8 Modals and popups</p> <p>3.9 Tooltips</p> <p>3.10 Sliders</p> <p>3.11 Accordion panels</p> |

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| | 3.12 Progress bars and loaders 3.13 Search fields with auto-suggestions 3.14 Checkboxes and radio buttons 3.15 Form input fields with validation messages 3.16 Scrollable areas with drag/scroll indicators 3.17 Animated micro-interactions |
| 4. Color Theory | 4.1 Color Wheel <ul style="list-style-type: none"> 4.1.1 Primary <ul style="list-style-type: none"> • Red • Yellow • Blue 4.1.2 Secondary <ul style="list-style-type: none"> • Green • Orange • Purple 4.1.3 Tertiary <ul style="list-style-type: none"> • Yellow-Green • Yellow-Orange • Red-Orange • Red-Purple • Blue-Purple • Blue-Green 4.1.4 Process Color <ul style="list-style-type: none"> • Cyan • Magenta • Yellow • Black 4.1.5 Color Temperature <ul style="list-style-type: none"> • Warm Color • Cool Color 4.2 Color Harmony <ul style="list-style-type: none"> 4.2.1 Complimentary 4.2.2 Analogous 4.2.3 Monochromatic 4.2.4 Triadic 4.2.5 Neutral 4.3 Hue-Saturation-Value 4.4 Shade-Tone-Tints |
| 5. Color Modes | 5.1 RGB (Red, Green, Blue) 5.2 HEX (Hexadecimal) 5.3 HSL (Hue, Saturation, Lightness) 5.4 HSLA (Hue, Saturation, Lightness, Alpha) 5.5 RGBA (Red, Green, Blue, Alpha) 5.6 Named Colors 5.7 Lab (CIELAB) 5.8 LCH (Lightness, Chroma, Hue) |

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| 6. Color Psychology | 6.1 Emotional responses (e.g., red = energy, blue = calm) 6.2 Cultural significance 6.3 Symbolic meanings of colors |
| 7. Color Schemes | 7.1 Monochromatic 7.2 Complementary 7.3 Analogous 7.4 Triadic 7.5 Neutral |

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent, and recent and meet the requirements of the current version of the Unit of Competency.

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| 1. Critical aspects of competency | The assessment required evidence that the candidate: 1.1 Correctly interpreted visual design principles relevant to web layout and UI. 1.2 Evaluated and critiqued existing web designs based on visual design effectiveness. 1.3 Applied appropriate color schemes that enhance readability, accessibility, and branding. 1.4 Prepared consistent color palettes and documented them in a digital style guide. 1.5 Ensured visual balance and hierarchy using appropriate elements and grid systems. 1.6 Tested and refined color usage for web accessibility compliance (WCAG 2.1). 1.7 Adapted visual elements for different screen sizes, resolutions, and devices. |
| 2. Underpinning knowledge | The candidate must demonstrate knowledge of: 2.1 Basic principles of web design and UI layout. 2.2 Common visual elements used in web design and their interactions. 2.3 The concept of color theory and psychology in digital products. 2.4 Color spaces used in web design (e.g., RGB, HEX, HSL). 2.5 Accessibility requirements for web color usage. 2.6 Web-safe and brand-safe color management practices. 2.7 Use of modern color tools for web (e.g., Tailwind, Adobe Color). 2.8 Importance of design consistency across pages and devices. |
| 3. Underpinning Skills | The candidate must be able to: 3.1 Identify and interpret UI design elements in web interfaces. 3.2 Apply visual hierarchy using typography, spacing, and color. 3.3 Select and apply accessible color schemes for digital displays. 3.4 Utilize online and offline tools to generate and manage color palettes. 3.5 Evaluate websites using visual design critique methods. |

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| | <p>3.6 Document color decisions in web style guides or design systems.</p> <p>3.7 Communicate design intentions effectively with teams and stakeholders.</p> |
| 4. Required attitude | <p>The candidate must demonstrate the following attitudes:</p> <p>4.1 Willingness to learn evolving web design and color trends.</p> <p>4.2 Attention to detail in applying color for functional and aesthetic purposes.</p> <p>4.3 Openness to critique and user feedback for improvement.</p> <p>4.4 Appreciation for accessibility and inclusive design.</p> <p>4.5 Consistency in applying brand identity across digital platforms.</p> <p>4.6 Desire to explore new design tools and frameworks.</p> <p>4.7 Professionalism in maintaining design integrity across screen formats.</p> |
| 5. Resource Implication | <p>The following resources must be provided:</p> <p>5.1 workplace (actual or simulated)</p> <p>5.2 equipment and outfits appropriate in applying safety measures</p> <p>5.3 tools, materials and documentation required</p> <p>5.4 relevant specifications or work instructions.</p> |
| 6. Methods of Assessment | <p>Methods of assessment may include but are not limited to:</p> <p>6.1 Demonstration with oral questioning</p> <p>6.2 On the job observation with oral questioning</p> <p>6.3 Written test</p> <p>6.4 Portfolio</p> |
| 7. Context of Assessment | <p>7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module</p> <p>7.2 Assessment should be done by NSDA the certified assessor</p> |
| <p>Accreditation Requirements</p> <p>Training Providers must be accredited by the National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p> | |

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| Unit Code Title | OU-ICT-WD-02-L3-V2: Setup Web Design Environment |
| Unit Descriptor | This unit covers the competencies (skills, knowledge, and attitudes) required to set up and configure a professional web design environment. It includes installing code editors and tools, configuring browsers and extensions, organizing files and folders, using version control systems, and ensuring the system is ready for efficient front-end development work. |
| Nominal Hours | 40 Hours |
| Elements of Competency | <p>Performance Criteria</p> <p><u>Bold & Underlined</u> terms are elaborated in the Range of Variables.</p> |
| 1. Select and Install Web Development Tools | <ul style="list-style-type: none"> 1.1 Common <u>web design tools and editors</u> are identified based on project requirements. 1.2 The selected editor is downloaded and installed according to standard procedures. 1.3 Recommended <u>code editor extensions / plugins</u> are installed and configured. 1.4 Browsers for testing web pages are identified and installed. 1.5 <u>Browser developer tools</u> are explored and activated for debugging. 1.6 Tools are tested to verify proper installation and functionality. |
| 2. Organize File and Folder Structure | <ul style="list-style-type: none"> 2.1 Project folders and subfolders are created following industry best practices. 2.2 <u>Naming conventions</u> for files and folders are applied consistently. 2.3 Sample index file and supporting resource files are placed in the appropriate locations. 2.4 A file organization template is used to standardize structure across projects. 2.5 Files and folders are tested for accessibility and correct link referencing. |
| 3. Configure Local Development Environment | <ul style="list-style-type: none"> 3.1 <u>Local server</u> is set up for real-time preview. 3.2 <u>Code editor automation settings</u> are configured in the code editor. 3.3 Default workspace settings and themes are customized to improve productivity. 3.4 Keyboard shortcuts and snippets are set up to accelerate coding. |

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| | 3.5 Sample web files are run on the local server to ensure environment stability. |
| 4. Configure Live Development Environment for Web Design | <p>4.1 Hosting service providers are researched and selected based on project needs.</p> <p>4.2 Domain name is registered and DNS settings are configured to point to the hosting server.</p> <p>4.3 Web <u>server settings</u> are configured to support the project's technologies.</p> <p>4.4 Files are uploaded using FTP/SFTP or <u>version control deployment tools</u>.</p> <p>4.5 File and folder structures are verified and adjusted to match hosting requirements.</p> <p>4.6 Database connections (if applicable) are configured and tested on the live server.</p> <p>4.7 Site performance, responsiveness, and functionality are tested on the live domain across multiple devices and browsers.</p> <p>4.8 <u>Site security settings</u> are checked and configured for secure access.</p> |
| 5. Interpret Data Layer | <p>5.1 The concept and purpose of a data layer in modern web development are defined with examples.</p> <p>5.2 Common structures of <u>data layers</u> are interpreted in the context of frontend-backend interaction.</p> <p>5.3 Integration points for web APIs and data layer usage are explained with sample scenarios.</p> <p>5.4 Basic interaction between frontend UI and backend data is Interpreted.</p> <p>5.5 Real-world use cases involving dynamic content loading and tracking with data layers are explained.</p> <p>5.6 Best practices for organizing, managing, and debugging data layers are identified and explained.</p> |
| 6. Setup Version Control for Project | <p>6.1 <u>Version control tools</u> are installed and initialized in the project folder.</p> <p>6.2 Basic Git commands are practiced.</p> <p>6.3 Git repositories are created and configured locally.</p> <p>6.4 Various remote repositories are linked with the local project.</p> <p>6.5 Sample commits are made to test synchronization.</p> <p>6.6 Version history is reviewed to understand tracking and collaboration.</p> |
| Range of Variables | |

| Variable | Range (may include but not limited to): |
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| 1. Web design tools and editors | 1.1 VS Code 1.2 Sublime Text 1.3 Atom 1.4 Brackets 1.5 Notepad ++ |
| 2. Code editor extensions/plugins | 2.1 Emmet 2.2 Live Server 2.3 Prettier 2.4 ESLint |
| 3. Browser developer tools | 3.1 Chrome DevTools 3.2 Firefox Inspector 3.3 Safari Web Inspector |
| 4. Naming conventions | 4.1 kebab-case 4.2 snake_case 4.3 Camel Case 4.4 Capitalize 4.5 Lower Case |
| 5. Local server | 5.1 Live Server 5.2 XAMPP 5.3 WAMP/MAMP/LAMP 5.4 Node.js 5.5 IIS (Internet Information Services) |
| 6. Code Editor Automation Settings | 6.1 File auto-save options 6.2 Formatting options 6.3 Linting options |
| 7. Server settings | 7.1 Apache 7.2 Nginx 7.3 Node.js |
| 8. Version control deployment tools | 8.1 GitHub 8.2 GitLab 8.3 Bitbucket |
| 9. Site security settings | 9.1 SSL certificate 9.2 file permissions 9.3 HTTPS setup 9.4 firewall configuration |

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| 10. Data layer | 10.1 JSON 10.2 JavaScript 10.3 Arrays 10.4 objects |
| 11. Version Control Tools | 11.1 GitHub 11.2 GitLab 11.3 Bitbucket |
| 12. Basic commands Git | 12.1 init 12.2 clone 12.3 add 12.4 commit 12.5 status 12.6 log 12.7 push 12.8 branch 12.9 pull 12.10 merge 12.11 checkout 12.12 reset 12.13 rm 12.14 mv 12.15 tag 12.16 help |
| Evidence Guide The evidence must be authentic, valid, sufficient, and meet all requirements of the current version of the Unit of Competency. | |
| 1. Critical aspects of competency | Assessment required evidence that the candidate: 1.1 Correctly installed and configured a code editor and relevant browser tools. 1.2 Created an organized file and folder structure according to project standards. 1.3 Configured a local development environment for real-time page preview. 1.4 Applied consistent file naming conventions and linked resources correctly. 1.5 Uploaded and configured web files on a live server securely. 1.6 Applied SSL and key security settings to enable secure deployment. 1.7 Tested live site functionality including UI, links, and responsiveness. |

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| | <ol style="list-style-type: none"> 1.8 Documented and implemented basic backup and version control procedures. 1.9 Integrated a basic API call and interpreted the response in a web interface. 1.10 Connected frontend components with backend data using JavaScript. 1.11 Set up and used basic version control with Git and connected to a remote repository. 1.12 Demonstrated proper use of code formatting tools and productivity extensions. 1.13 Verified the functionality of the complete setup through test projects. |
| 2. Underpinning knowledge | <p>The candidate must demonstrate knowledge of:</p> <ol style="list-style-type: none"> 2.1 Popular web development editors and their features. 2.2 Folder structures for HTML/CSS/JS-based web projects. 2.3 Local server setup and its importance in web development. 2.4 File path referencing (relative vs absolute). 2.5 Basic web hosting infrastructure and live deployment workflow. 2.6 Common control panels (e.g., cPanel) and their use in site configuration. 2.7 SSL certificates and HTTPS setup for secure websites. 2.8 Domain registration and DNS configuration processes. 2.9 Purpose and function of data layers in web communication. 2.10 Syntax and structure of JSON and JavaScript objects. 2.11 Basic use of fetch/AJAX for API interactions. 2.12 Security considerations when handling live data in web design. 2.13 Git basics and version control principles. 2.14 Importance of browser compatibility and developer tools. 2.15 Coding productivity practices and use of extensions. |
| 3. Underpinning skills | <p>To demonstrate competency, the candidate must be able to:</p> <ol style="list-style-type: none"> 3.1 Identify, download, and install code editors and browsers. 3.2 Set up file structures and maintain naming consistency. 3.3 Configure workspaces and install useful extensions in editors. 3.4 Operate browser developer tools for preview and debugging. 3.5 Use control panels to deploy and manage web files. 3.6 Upload web content securely via FTP/SFTP. 3.7 Configure SSL and DNS for live deployment. 3.8 Test website behavior across multiple devices and browsers. |

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| | <ul style="list-style-type: none"> 3.9 Read and apply structured data in real projects. 3.10 Implement basic fetch/AJAX calls to retrieve and display data. 3.11 Debug data layer interactions using browser DevTools. 3.12 Link and update UI components with dynamic data sources. 3.13 Initialize Git repositories and perform basic commits. 3.14 Synchronize local projects with GitHub. 3.15 Run and verify sample web projects on a local server. |
| 4. Required attitudes | <p>The candidate must demonstrate the following attitudes:</p> <ul style="list-style-type: none"> 4.1 Willingness to follow structured file organization and naming conventions. 4.2 Consistency in applying formatting and code structure standards. 4.3 Interest in exploring new tools and features to improve productivity. 4.4 Responsibility in maintaining version history and backups. 4.5 Patience in troubleshooting configuration and environment setup errors. 4.6 Commitment to preparing a clean and error-free workspace. 4.7 Collaboration and communication when sharing or synchronizing code. |
| 5. Resource implication | <p>The following resources must be provided:</p> <ul style="list-style-type: none"> 5.1 Workplace (actual or simulated). 5.2 Tools, equipment, and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities. |
| 6. Methods of Assessment | <p>Methods of assessment may include, but are not limited to:</p> <ul style="list-style-type: none"> 6.1 Demonstration with oral questioning 6.2 On-the-job observation with oral questioning 6.3 Written test 6.4 Portfolio |
| 7. Context of assessment | <ul style="list-style-type: none"> 7.1 Competency assessment must be done in an NSDA-accredited center. 7.2 Assessment should be done by an NSDA-certified/nominated assessor |

Accreditation Requirements

Training Providers must be accredited by the National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

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| Unit Code Title | OU-ICT-WD-03-L3-V2: Work with HTML |
| Unit Descriptor | This unit covers the competencies (skills, knowledge, and attitudes) required to use HTML (HyperText Markup Language) to create structured, accessible, and standards-compliant web content. It includes creating semantic page layouts, embedding multimedia, ensuring accessibility, and validating markup. |
| Nominal Hours | 60 Hours |
| Elements of Competency | <p>Performance Criteria</p> <p><u>Bold & Underlined</u> terms are elaborated in the Range of Variables.</p> |
| 1. Create HTML Structure | <ul style="list-style-type: none"> 1.1 Basic document structure is created following W3C standards. 1.2 <u>Root file tags</u> are added to enhance SEO and browser compatibility. 1.3 Semantic elements are used for clear layout. 1.4 Headings and paragraph tags are applied to organize textual content meaningfully. 1.5 Comments are used to annotate the code for clarity and future maintenance. |
| 2. Insert and Format Content | <ul style="list-style-type: none"> 2.1 Project folders and subfolders are created following industry best practices. 2.2 Text formatting tags are applied appropriately. 2.3 Ordered and unordered lists are created to present structured content. 2.4 Hyperlinks are created using anchor tags with appropriate <u>attributes</u>. 2.5 Tables are structured using <u>table tag</u> for data presentation. 2.6 Media content is embedded using appropriate HTML5 tags. |
| 3. Create and Manage Forms | <ul style="list-style-type: none"> 3.1 Local server is set up for real-time preview. 3.2 Form elements are added with proper labels and field sets. 3.3 Input types are selected as per requirements. 3.4 Required attributes, placeholders, and validations are applied. 3.5 Forms are grouped and styled using class or ID attributes. 3.6 Submit, reset, and custom buttons are configured for functionality. |

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| 4. Ensure Accessibility and Standards Compliance | <p>4.1 ARIA (Accessible Rich Internet Applications) roles and attributes are applied to enhance accessibility for assistive technologies.</p> <p>4.2 Alt attributes are provided for all images and multimedia.</p> <p>4.3 Tab index and keyboard navigation techniques are used to improve usability.</p> <p>4.4 HTML is validated using online Validation Tools to ensure standards compliance.</p> <p>4.5 Content structure is checked to support screen readers and other accessibility tools.</p> |
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Range of Variables

| Variable | Range (may include but not limited to): |
|----------------------------|--|
| 1. Root file tag | <p>1.1 Page titles</p> <p>1.2 Meta descriptions</p> <p>1.3 Viewport</p> <p>1.4 Charset</p> |
| 2. Attributes | <p>2.1 src</p> <p>2.2 href</p> <p>2.3 target</p> <p>2.4 title</p> <p>2.5 alt</p> <p>2.6 role</p> <p>2.7 aria-label</p> |
| 3. Table tag | <p>3.1 table</p> <p>3.2 thead</p> <p>3.3 tbody</p> <p>3.4 tfoot</p> <p>3.5 tr</p> <p>3.6 thtd</p> |
| 4. Online Validation Tools | <p>4.1 W3C Validator</p> <p>4.2 Browser dev tools</p> |

Evidence Guide

The evidence must be authentic, valid, sufficient, and meet all requirements of the current version of the Unit of Competency.

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| 1. Critical aspects of competency | <p>Assessment required evidence that the candidate:</p> <p>1.1 Structured HTML documents were created using semantic tags and W3C standards.</p> <p>1.2 Multimedia and content were embedded using appropriate HTML elements.</p> |
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| | <ul style="list-style-type: none"> 1.3 Forms were developed using various input types with proper labeling and validation. 1.4 Accessibility features such as ARIA roles and alt text were applied appropriately. 1.5 Markup was validated and corrected using HTML validation tools. |
| 2. Underpinning knowledge | <p>The candidate must demonstrate knowledge of:</p> <ul style="list-style-type: none"> 2.1 HTML5 structure and its semantic significance. 2.2 Tag syntax, nesting rules, and browser rendering behavior. 2.3 Media embedding and responsive HTML techniques. 2.4 Form controls and HTML validation mechanisms. 2.5 Accessibility guidelines and legal compliance. |
| 3. Underpinning skills | <p>To demonstrate competency, the candidate must be able to:</p> <ul style="list-style-type: none"> 3.1 Writing clean, semantic, and error-free HTML code. 3.2 Embedding and configuring multimedia content. 3.3 Creating interactive and accessible web forms. 3.4 Using developer tools for validation and testing. 3.5 Organizing HTML code for maintainability. |
| 4. Required attitudes | <p>The candidate must demonstrate the following attitudes:</p> <ul style="list-style-type: none"> 4.1 Attention to detail in writing clean and valid HTML code. 4.2 Commitment to web accessibility and user experience. 4.3 Curiosity to explore evolving HTML standards. 4.4 Proactive problem-solving when fixing validation errors. 4.5 Responsibility for code readability and future maintenance. |
| 5. Resource implication | <p>The following resources must be provided:</p> <ul style="list-style-type: none"> 5.1 Workplace (actual or simulated). 5.2 Tools, equipment, and physical facilities appropriate to perform activities. 5.3 Materials consumable to perform activities. |
| 6. Methods of Assessment | <p>Methods of assessment may include, but are not limited to:</p> <ul style="list-style-type: none"> 6.1 Demonstration with oral questioning 6.2 On-the-job observation with oral questioning 6.3 Written test 6.4 Portfolio |
| 7. Context of assessment | <ul style="list-style-type: none"> 7.1 Competency assessment must be done in an NSDA-accredited center. 7.2 Assessment should be done by an NSDA-certified/nominated assessor |

Accreditation Requirements

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| Unit Code and Title | OU-ICT-WD-04-L3-V2: Work with CSS and use CSS framework for web design |
| Unit Descriptor | This unit covers the knowledge, skills and attitudes required to work with CSS. It specifically includes interpreting and applying CSS, using responsive approach and using CSS grid. |
| Nominal Hours | 45 Hours |
| Elements of Competency | <p>Performance Criteria</p> <p>Bold and Underlined terms are elaborated in the Range of Variables</p> |
| 1. Interpret and Structure CSS | <p>1.1 The concept and purpose of CSS are explained using real-world examples.</p> <p>1.2 Types of CSS are identified with examples from existing websites.</p> <p>1.3 CSS syntax is interpreted by analyzing selectors, properties, and values.</p> <p>1.4 CSS selectors are compared and described through code samples.</p> |
| 2. Apply CSS for Layout and Styling | <p>2.1. A new CSS file is created and organized using standard naming conventions.</p> <p>2.2. The CSS file is properly linked and integrated with the HTML document.</p> <p>2.3. Design concepts for building a website are interpreted according to conceptual design standard.</p> <p>2.4. Styling rules are implemented based on a predefined layout or design brief.</p> <p>2.5. The CSS box model and positioning techniques are applied to arrange elements.</p> <p>2.6. Transitions and gradient effects are added to enhance visual appearance.</p> <p>2.7. 2D and 3D transformations and simple animations are applied to elements for interaction.</p> |
| 3. Implement Responsive Design Using Media Queries | <p>3.1 Responsive design principles are defined and explained with examples.</p> <p>3.2 Media queries are interpreted and tested for different screen breakpoints.</p> <p>3.3 Media queries are implemented to adjust layouts on mobile, tablet, and desktop devices.</p> <p>3.4 Responsive techniques are applied to web pages.</p> |
| 4. Use CSS Grid System for Layout | <p>4.1 CSS Grid layout concepts are explained with use cases.</p> <p>4.2 A CSS Grid container is created and configured with display and template properties.</p> |

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| | <p>4.3 Grid items are positioned and aligned using grid-specific properties.</p> <p>4.4 Complex page layouts are structured using CSS Grid combined with media queries.</p> |
| 5. Configure CSS Frameworks | <p>5.1 Popular CSS frameworks are identified and selected based on project requirements.</p> <p>5.2 Framework files are downloaded, installed, and linked to the project environment.</p> <p>5.3 Framework settings and configurations are customized as per design needs.</p> <p>5.4 Compatibility with HTML structure is ensured during integration.</p> |
| 6. Design Web Pages Using CSS Frameworks | <p>6.1 Predefined classes and components from the CSS framework are used to create structured layouts.</p> <p>6.2 Responsive design principles are applied to ensure the website adapts to different screen sizes and devices.</p> <p>6.3 Pages are styled using framework utilities.</p> <p>6.4 Framework components are customized with CSS to meet specific design requirements.</p> |
| 7. Test and Optimize Design | <p>7.1 The website is tested for compatibility across different browsers and devices.</p> <p>7.2 Errors and layout inconsistencies are identified and resolved.</p> <p>7.3 Performance of the web design is optimized using different optimization techniques.</p> <p>7.4 The final design is validated to ensure it meets project specifications and client requirements</p> |

Range of Variables

| Variable | Range (may include but not limited to): |
|---------------------------|--|
| 1. Types of CSS | <p>1.1 Inline</p> <p>1.2 Embedded/ Internal</p> <p>1.3 External</p> |
| 2. CSS selectors | <p>2.1 Universal</p> <p>2.2 Class</p> <p>2.3 ID</p> <p>2.4 Pseudo-class</p> <p>2.5 Group</p> <p>2.6 Descendant</p> |
| 3. Positioning techniques | <p>1.1 Static</p> <p>1.2 Relative</p> <p>1.3 Absolute</p> <p>1.4 Fixed</p> |

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| | 1.5 Sticky |
| 2. Screen breakpoints | 2.1 Mobile ($\leq 576\text{px}$) 2.2 Tablet (768px) 2.3 Desktop ($\geq 992\text{px}$) |
| 3. Responsive techniques | 3.1 Fluid grids 3.2 Flexible images 3.3 Viewport settings |
| 4. Grid layout concepts | 4.1 Rows 4.2 Columns 4.3 Gaps 4.4 Areas |
| 5. CSS Frameworks | 5.1 Bootstrap 5.2 Tailwind CS 5.3 Foundation 5.4 Material UI |
| 6. Responsive Design Principles | 8.1 Grid system 8.2 Flex box 8.3 Breakpoints 8.4 Media queries 8.5 Mobile-first design |
| 7. Framework components | 9.1 Forms 9.2 Navigation menus/Navbar 9.3 Modals 9.4 Carousels 9.5 Tooltips 9.6 Nav Tabs/Pills 9.7 Accordion 9.8 Card 9.9 Toast 9.10 Collapse 9.11 Offcanvas 9.12 Buttons 9.13 Input field 9.14 Check box 9.15 Radio Button 9.16 Dropdown 9.17 Toggle 9.18 Progress bar 9.19 Alert 9.20 Badges 9.21 Tables |

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| 8. Browsers and Devices | <ul style="list-style-type: none"> 10.1 Browsers <ul style="list-style-type: none"> 10.1.1 Chrome 10.1.2 Firefox 10.1.3 Safari 10.1.4 Edge 10.2 Devices <ul style="list-style-type: none"> 10.2.1 Android phones 10.2.2 iPhones 10.2.3 tablets 10.2.4 desktops. |
| 11 Optimization Techniques | <ul style="list-style-type: none"> 11.1 Minifying CSS and JS files 11.2 Lazy loading 11.3 Reducing unused CSS 11.4 Improving load time 11.5 Testing in Lighthouse 11.6 Image optimization |

Evidence Guide

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency

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| 1. Critical Aspects of Competency | <p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Correctly interpreted and applied CSS syntax, selectors, and styles. 1.2 Implemented responsive web design using media queries and layout techniques. 1.3 Used CSS Grid to build flexible and structured layouts. 1.4 Integrated and configured a CSS framework for structured webpage design. 1.5 Applied transitions, animations, and transform properties in styling. 1.6 Validated and tested web designs across multiple devices and browsers. 1.7 Optimized the performance of CSS-based web pages using best practices. |
| 2. Underpinning Knowledge | <p>The candidate must demonstrate knowledge of:</p> <ul style="list-style-type: none"> 2.1 Principles of Cascading Style Sheets (CSS) and its role in web development. 2.2 Types of CSS and the difference between selectors and properties. 2.3 CSS Box Model and positioning techniques. 2.4 Syntax and structure of media queries. 2.5 Responsive design techniques and breakpoints. 2.6 Structure and utility of CSS frameworks like Bootstrap or Tailwind. |

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| | <p>2.7 Cross-browser compatibility issues and testing methods.</p> <p>2.8 Website performance optimization techniques related to CSS.</p> |
| 3. Underpinning Skills | <p>The candidate must be able to:</p> <p>3.1 Write clean and structured CSS code manually.</p> <p>3.2 Integrate CSS with HTML documents effectively.</p> <p>3.3 Apply advanced styling including transitions, gradients, and transforms.</p> <p>3.4 Create responsive web designs using media queries.</p> <p>3.5 Use grid and flexbox layout systems to structure web pages.</p> <p>3.6 Customize and extend prebuilt CSS framework components.</p> <p>3.7 Debug layout or styling issues across devices and browsers.</p> <p>3.8 Test, validate, and optimize CSS for performance and accessibility.</p> |
| 4. Required Attitudes | <p>Assessment requires evidence that the candidate:</p> <p>4.1 Attention to detail in writing and organizing CSS code.</p> <p>4.2 Consistency in applying responsive layout and design principles.</p> <p>4.3 Commitment to writing clean, structured, and maintainable code.</p> <p>4.4 Responsibility for ensuring cross-browser and cross-device compatibility.</p> <p>4.5 Creativity in using modern CSS techniques such as animation, transitions, and grids.</p> <p>4.6 Willingness to explore and implement innovative layout solutions.</p> <p>4.7 Openness to learning new frameworks and improving technical efficiency.</p> <p>4.8 Curiosity to stay up-to-date with emerging trends and technologies in frontend design.</p> <p>4.9 Flexibility to adapt to changing project requirements and user needs.</p> <p>4.10 Collaborative mindset when working with designers, developers, and other stakeholders.</p> <p>4.11 Effective communication of technical decisions and styling logic.</p> <p>4.12 Receptiveness to constructive feedback and continuous improvement.</p> <p>4.13 Punctuality in meeting deadlines and delivering project milestones.</p> <p>4.14 Accountability for testing, debugging, and refining their own code and designs.</p> |

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| 5. Resource Implications | <p>The following resources must be provided:</p> <p>5.1 Relevant tools, Equipment, software and facilities needed to perform the activities.</p> <p>5.2 Required learning materials.</p> |
| 6. Methods of Assessment | <p>Methods of assessment may include, but are not limited to:</p> <p>6.1 Demonstration with oral questioning</p> <p>6.2 On-the-job observation with oral questioning</p> <p>6.3 Written test</p> <p>6.4 Portfolio</p> |
| 7. Context of Assessment | <p>7.1 Competency assessment must be done in a training center or in an actual or simulated work place after completion of the training module</p> <p>7.2 Assessment should be done by NSDA certified assessor</p> |
| <p>Accreditation Requirements</p> <p>Training Providers must be accredited by the National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p> | |

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| Unit Code Title | OU-ICT-WD-05-L3-V2: Perform Design to Web |
| Unit Descriptor | This unit covers the competencies (skills, knowledge, and attitudes) required to the conversion of visual design files (PSD, Figma, XD) into responsive, functional web pages using HTML, CSS, and JavaScript. It involves interpreting layout specifications, slicing assets, and building code structures that reflect the design accurately. |
| Nominal Hours | 40 Hours |
| Elements of Competency | <p>Performance Criteria</p> <p><u>Bold & Underlined</u> terms are elaborated in the Range of Variables.</p> |
| 1. Select and Install Web Development Tools | <ul style="list-style-type: none"> 1.1 Design files from <u>visual design software</u> are opened and inspected. 1.2 Layout grids, typography, and design tokens are identified. 1.3 Color palettes, margins, and spacing values are noted. 1.4 Design responsiveness requirements are interpreted. 1.5 Asset types and export settings are determined. |
| 2. Export and Optimize Design Assets | <ul style="list-style-type: none"> 2.1 Project folders and subfolders are created following industry best practices. 2.2 Required images, icons, and illustrations are sliced and exported. 2.3 Assets are optimized for web usage. 2.4 File naming conventions and folder structure are maintained. 2.5 Multiple screen variants are prepared for responsiveness. |
| 3. Build Web Page Based on Design | <ul style="list-style-type: none"> 3.1 HTML layout is structured based on visual hierarchy. 3.2 CSS is applied to replicate spacing, colors, fonts, and dimensions. 3.3 Web fonts and icons are integrated as per design. 3.4 Interactive components are recreated using basic JavaScript or CSS. 3.5 Responsive design is implemented using Flexbox, Grid, or framework classes. |
| 4. Ensure Design Consistency and Optimization | <ul style="list-style-type: none"> 4.1 Browser testing is conducted to compare final page with design mockups. 4.2 <u>Cross-device</u> responsiveness is tested and refined. 4.3 Performance is improved by minimizing CSS/JS and optimizing media. |

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| | <p>4.4 Accessibility checks are performed.</p> <p>4.5 Final output is delivered in required format or hosted for review.</p> |
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Range of Variables

| Variable | Range (may include but not limited to): |
|---------------------------|--|
| 1. Visual design software | <p>1.1 Figma</p> <p>1.2 XD</p> <p>1.3 Photoshop</p> |
| 2. Cross-device | <p>2.1 Mobile</p> <p>2.2 Tablet</p> <p>2.3 Desktop</p> |

Evidence Guide

The evidence must be authentic, valid, sufficient, and meet all requirements of the current version of the Unit of Competency.

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| 1. Critical aspects of competency | <p>Assessment required evidence that the candidate:</p> <p>1.1 Interpreted visual design specifications from UI design tools.</p> <p>1.2 Exported and optimized all required assets for web use.</p> <p>1.3 Accurately recreated the layout structure using HTML and CSS.</p> <p>1.4 Implemented responsive behavior consistent with original designs.</p> <p>1.5 Applied optimization techniques to ensure fast load time.</p> <p>1.6 Ensured cross-browser compatibility and visual consistency.</p> <p>1.7 Delivered final coded layout aligned with the original design vision.</p> |
| 2. Underpinning knowledge | <p>The candidate must demonstrate knowledge of:</p> <p>2.1 Web-safe color theory and font implementation.</p> <p>2.2 Conversion of pixel-perfect designs to fluid layouts.</p> <p>2.3 Image optimization techniques and formats.</p> <p>2.4 Semantic HTML and accessible design.</p> <p>2.5 Best practices for performance and responsiveness.</p> |
| 3. Underpinning skills | <p>To demonstrate competency, the candidate must be able to:</p> <p>3.1 Extracting assets using Figma, XD, and PSD.</p> <p>3.2 Slicing, naming, and organizing export files.</p> |

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| | <p>3.3 Structuring semantic HTML with design fidelity.</p> <p>3.4 Applying layout systems (Grid/Flexbox) to build responsive pages.</p> <p>3.5 Testing and optimizing web pages for multiple devices and browsers.</p> |
| 4. Required attitudes | <p>The candidate must demonstrate the following attitudes:</p> <p>4.1 Attention to detail and visual precision.</p> <p>4.2 Creativity in adapting fixed designs into flexible code.</p> <p>4.3 Collaboration with designers for feedback and clarification.</p> <p>4.4 Motivation to maintain performance and accessibility.</p> <p>4.5 Commitment to delivering visually faithful web output.</p> |
| 5. Resource implication | <p>The following resources must be provided:</p> <p>5.1 Workplace (actual or simulated).</p> <p>5.2 Tools, equipment, and physical facilities appropriate to perform activities.</p> <p>5.3 Materials consumable to perform activities.</p> |
| 6. Methods of Assessment | <p>Methods of assessment may include, but are not limited to:</p> <p>6.1 Demonstration with oral questioning</p> <p>6.2 On-the-job observation with oral questioning</p> <p>6.3 Written test</p> <p>6.4 Portfolio</p> |
| 7. Context of assessment | <p>7.1 Competency assessment must be done in an NSDA-accredited center.</p> <p>7.2 Assessment should be done by an NSDA-certified/nominated assessor</p> |
| <p>Accreditation Requirements</p> <p>Training Providers must be accredited by the National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p> | |

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| Unit Code Title | OU-ICT-WD-06-L3-V2: Work with Core JavaScript |
| Unit Descriptor | This unit covers the competencies (skills, knowledge, and attitudes) required to set up and configure a professional web design environment. It includes installing code editors and tools, configuring browsers and extensions, organizing files and folders, using version control systems, and ensuring the system is ready for efficient front-end development work. |
| Nominal Hours | 40 Hours |
| Elements of Competency | <p>Performance Criteria</p> <p><u>Bold & Underlined</u> terms are elaborated in the Range of Variables.</p> |
| 1. Interpret JavaScript Fundamentals | <ul style="list-style-type: none"> 1.1 JavaScript syntax and <u>data types</u> are explained with relevant examples. 1.2 Variables are declared and initialized using var, let, and const. 1.3 <u>Operators</u> are applied to perform operations. 1.4 <u>Data structures</u> are interpreted and implemented. 1.5 Console logging is used to debug and display outputs. |
| 2. Apply Control Structures | <ul style="list-style-type: none"> 2.1 <u>Conditional statements</u> are written to control program logic. 2.2 <u>Looping statements</u> are implemented to iterate data. 2.3 Nested conditions and loops are created for complex logic. 2.4 <u>Boolean logic</u> is used in decision-making scenarios. |
| 3. Work with Functions | <ul style="list-style-type: none"> 3.1 Functions are declared using named and anonymous methods. 3.2 Parameters and return values are used appropriately. 3.3 Scope and hoisting are applied in function design. 3.4 Reusable functions are written to improve code efficiency. |
| 4. Handle Events using DOM Manipulation | <ul style="list-style-type: none"> 4.1 <u>DOM elements</u> are accessed using get ElementById, querySelector. 4.2 HTML content and attributes are modified using JavaScript. 4.3 Event listeners are added to enhance interactivity. 4.4 Basic form validation and alert messages are implemented. |
| Range of Variables | |
| Variable | Range (may include but not limited to): |

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|---------------------------|--|
| 1. Data types | 1.1 string 1.2 number 1.3 bigint 1.4 boolean 1.5 undefined 1.6 null 1.7 symbol 1.8 array 1.9 object |
| 2. Operators | 2.1 Arithmetic, 2.2 Assignment 2.3 Logical 2.4 Comparison 2.5 Bitwise 2.6 String 2.7 Ternary (Conditional) |
| 3. Data structures | 3.1 Arrays 3.2 Objects 3.3 Maps 3.4 Sets 3.5 Linked Lists 3.6 Stacks 3.7 Queues 3.8 Hash Tables 3.9 Trees 3.10 Graphs |
| 4. Conditional statements | 4.1 if 4.2 if...else 4.3 if...else if...else 4.4 switch |
| 5. Looping statements | 5.1 for 5.2 while 5.3 do...while 5.4 for...in 5.5 for...of |
| 6. Boolean logic | 6.1 true 6.2 false 6.3 AND 6.4 OR 6.5 NOT |
| 7. DOM elements | 7.1 Buttons 7.2 Inputs 7.3 Forms 7.4 containers |

Evidence Guide

The evidence must be authentic, valid, sufficient, and meet all requirements of the current version of the Unit of Competency.

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| 1. Critical aspects of competency | <p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none">1.1 Accurately declared and used variables, data types, and operators in code.1.2 Applied control structures to solve logic-based problems.1.3 Defined and invoked custom functions for task modularization.1.4 Integrated event listeners to respond to user actions.1.5 Manipulated DOM elements to dynamically update webpage content.1.6 Debugged JavaScript code using console and logical checks. |
| 2. Underpinning knowledge | <p>The candidate must demonstrate knowledge of:</p> <ul style="list-style-type: none">2.1 Basic JavaScript syntax and reserved keywords.2.2 Variable types and data structures.2.3 Logical and control flow in programming.2.4 DOM structure and document traversal.2.5 Common JavaScript events and handlers. |
| 3. Underpinning skills | <p>To demonstrate competency, the candidate must be able to:</p> <ul style="list-style-type: none">3.1 Writing clean and functional JavaScript code.3.2 Using browser tools for debugging.3.3 Creating interactive forms and event-driven behaviors.3.4 Accessing and modifying the DOM effectively.3.5 Structuring functions to reduce repetition and improve clarity. |
| 4. Required attitudes | <p>The candidate must demonstrate the following attitudes:</p> <ul style="list-style-type: none">4.1 Curiosity to experiment with different JavaScript functionalities.4.2 Logical thinking and structured problem-solving mindset.4.3 Attention to code readability and commenting.4.4 Persistence in debugging and troubleshooting code.4.5 Openness to learning and improving through practice. |
| 5. Resource implication | <p>The following resources must be provided:</p> <ul style="list-style-type: none">5.1 Workplace (actual or simulated).5.2 Tools, equipment, and physical facilities appropriate to perform activities.5.3 Materials consumable to perform activities. |

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| 6. Methods of Assessment | <p>Methods of assessment may include, but are not limited to:</p> <ul style="list-style-type: none"> 6.1 Demonstration with oral questioning 6.2 On-the-job observation with oral questioning 6.3 Written test 6.4 Portfolio |
| 7. Context of assessment | <ul style="list-style-type: none"> 7.1 Competency assessment must be done in an NSDA-accredited center. 7.2 Assessment should be done by an NSDA-certified/nominated assessor |
| <p>Accreditation Requirements</p> <p>Training Providers must be accredited by the National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p> | |

Validation of Competency Standard by Standard and Curriculum Validation Committee (SCVC)

The Competency Standards for National Skills Certificate in **Web Design**, NTVQF L-III Qualification is validated by SCVC on 12 January 2020 and approved by NSDA.

Respectable members of the SCVC:

| Web Design , Level - III | | |
|---------------------------------|---|-------------|
| 1 | Md. Faruque Hossain, Executive Chairman (Secretary) Tel: +880 2 8891091, Email: ecnsda@nsda.gov.b | Chief Guest |
| 2 | ATM Mahbubul Alam, Secretary General, ICTISC, Cell: +8802-8833463-64, Email: mahbub@wintelbd.com | Chairperson |
| 3 | Mohammad Rezaul Karim, Additional Secretary, Member (Skills Standard & Certification) Tel: +880 2 8891096, Email: rezaul134@yahoo.com | Member |
| 4 | Md. Mustafizur Rahman, CEO, Choukosh. Cell: 01819201456 | Member |
| 5 | A.B.M. Owal Ikramul Islam, Trainer & Assessor, BASIS, Cell: 01847174678 | Member |
| 6 | Md. Asif Uddin, Trainer, BITM, Cell: 01723004419 | Member |
| 7 | Mahbub Ul Huda, Curriculum Coordinator (Consultant), NSDA. Cell: 01735490491, Email: huda763@gmail.com | Member |
| 8 | Engr. Md. Abdur Razzaque, Specialist (CS), NSDA, Dhaka. Mobile: +88 01743 734313, E-mail: razzaque159@gmail.com | Member |
| 9 | Mr. Saif Uddin, Process Expert (CS and Curriculum), Cell: 01723004419, Email: engrbd.saif@gmail.com | Member |
| 10 | Modhusudan Sarkar, Consultant, NSDA Cell: 01714164518 | Member |
| 11 | Ahsanul Haq, MIS Consultant, NSDA Cell: 01712631884 | Member |
| 12 | Md. Quamruzzaman, Director (Skills Standard) Tel: +880 2 8891097, Email: qzaman40@yahoo.com | Member |
| 13 | Engr. B.M. Shariful Islam, Deputy Director (Skills Standard) Cell: +880 01715010321, Email: sharif9375@gmail.com | Member |
| 14 | Farid Ahmed, Deputy Director, NSDA Cell: +880 01714545851, Email: faridje1993@gmail.com | Member |
| 15 | Shilabrata Karmakar, Deputy Director (Admin) Cell: +880 1819478847, Email: shila16208@gmail.com | Member |

Review and Validation of Competency Standard

The Competency Standards for National Skills Certificate in Web Design, Level- 3 is reviewed and validated by NSDA on 19 December 2024.

List of Members

| S/N | Name and Address | Position in the committee | Signature and Date |
|-----|---|---------------------------|--------------------|
| 1. | Shafquat Haider, Chairman, ICT ISC, ciproco@bol-online.com , shafquat.haider@gmail.com, Mobile No. 01711532597 | Chairperson | |
| 2. | Md. Rafiuzzaman Khan Software Engineering Team Lead REEA Digital Limited Email: ponickid@gmail.com Mobile: 880 1710-706260 | Member | |
| 3. | Khondoker Ali Asgor Pavel Chief Executive Officer, bitBirds Solutions, Dhaka. Email: email@aliasgorpavel.com Mobile: 01711873008 | Member | |
| 4. | Md. Abdul Hye Siddiqui, Senior Instructor (Computer), BMET, Email: siddiqui.ttc@gmail.com, Mobile: 01819725610 | Member | |
| 5. | Name: Habibur Rahman Designation: Chief Technical Officer (CTO) Company Name: Shihoron Solution Email: habib2498922@gmail.com Mobile: 01711805110 | Member | |
| 6. | Al-Nahian Hasan Software Developer, OXIS Tech Limited, Motijheel, Dhaka Email: nahianhasan161@gmail.com Mobile: 01317340151 | Member | |
| 7. | Md. Anisuzzaman, Instructor (Computer), Rajshahi TTC, Email: mazaman84@gmail.com Mobile: 01714422225 | Member | |
| 8. | Md. Saif Uddin, Junior Assessment Consultant, National Skills Development Authority, Email: engrbd.saif@gmail.com, Mobile: 01723004419 | Member | |

Workshop Minutes

Government of the People's Republic of Bangladesh
Chief Adviser's Office
National Skills Development Authority
Level: 10-11, Biniyog Bhaban,
E-6 / B, Agargaon, Sher-E-Bangla Nagar Dhaka-1207, Bangladesh.
Email: ec@nsda.gov.bd
Website: www.nsda.gov.bd.

Minutes of the Competency Standard Review and Validation Workshop on “Web Design, Level 3” Occupation.

| | |
|----------|---|
| Chairman | : |
| Date | : 19 December 2024 |
| Time | : 9:00am - 5:00 pm |
| Place | : ISC Conference Room, NSDA, Biniyog Bhaban, Agargaon, Dhaka-1207 |

The Chairman welcomed all those present and started the work of the workshop. During the day-long workshop, the competency standard of Web Design, Level 3 occupation was reviewed and finalized in detail. The activities related to the finalized standard through review and validation workshop are presented below:

| Serial No. | Content validation | Whether it was appropriate | | What actions have been taken if not appropriate? |
|------------|------------------------------|----------------------------|-----|---|
| | | Yes | No. | |
| 1. | Name and level of occupation | yes | | |
| 2. | Nominal Hour | yes | | 360 hours. |
| 3. | Unit of Competency | | No | <p>From the generic section 1 new Generic unit added.</p> <ul style="list-style-type: none">▪ Practice Negotiation Skills <p>Deleted 2 Generic units</p> <ul style="list-style-type: none">▪ Apply Occupational Safety and Health (OSH) Practices at Workplace▪ Carry out workplace interaction in English <p>From the sector section 2 new sector unit added.</p> <ul style="list-style-type: none">▪ Practice Occupational Safety and Health (OSH) Standard in ICT▪ Prepare Documents and Create Presentations for client. <p>Deleted 4 sector units</p> <ul style="list-style-type: none">▪ Operate a Personal Computer and Use Application programs▪ Operate office application software |

| | | | | |
|-----|-------------------------------|-----|-----|---|
| | | | | <ul style="list-style-type: none"> ▪ Access Information using Internet and electronic mail ▪ Comply to Ethical Standards in IT Workplace <p>1 new Occupation units added and two occupation units are deleted.</p> <p>Added:</p> <ul style="list-style-type: none"> ▪ Interpret Visual Design Principles and Apply Color Sense for Web Design <p>Deleted:</p> <ul style="list-style-type: none"> ▪ Work with basic javascript & jQuery ▪ Work with CMS |
| 4. | Element | | No. | Proper refinement of required elements has been achieved by keeping consistent elements. |
| 5. | Performance Criteria | | No. | Necessary refinement of performance criteria has been achieved. |
| 6. | Variables | | No. | Appropriate addition, modification and refinement of variables has been done keeping in view the performance criteria. |
| 7. | Critical Aspect of Competence | | No. | Appropriate changes have been made in the critical aspect of competency as per the change of units. |
| 8. | Underpinning knowledge | | No. | Necessary addition, changes and refinements have been made. |
| 9. | Underpinning Skills | | No. | Necessary added, changes and refinements have been made. |
| 10. | Attitude | Yes | | |
| 11. | Resources | Yes | | |
| 12. | Assessment methods | Yes | | |
| 13. | Others | | | <ul style="list-style-type: none"> ▪ The nominal hours of the units of competencies have been readjusted for content consideration. ▪ Overall, the occupation has been included in Level-3 according to BNQF 1-6. |

Through the above activities, the Competency Standard has been reviewed, finalized and validated as "**Web Design, Level 3**".

Chairman
Committee on Standard and
Curriculum Validation,
Chairman - ICT ISC