



Competency Based Training (CBT) Curriculum Framework



Foreword

Education and training for productive employment is vital for economic and social development in Bangladesh. Technical and Vocational Education and Training (TVET) is a tool for productivity enhancement and poverty reduction. TVET sector ensures quality, relevance and access of skills training which meets industry demand and fulfill the requirements of individual for opting gainful and productive employment.

Competency Based Training (CBT) Curriculum is an official document that describes the content of a particular programme which is developed based on the national competency standards accepted by the industry. It is used by the instructor/trainer as a base on which to build instructional activities such as classroom lessons, workshop/field activities, assignments, tests, etc. Thus a CBT curriculum is a very important document and probably the first document a new instructor/trainer should refer to in order to get prepared for training and leaning process.

The framework will work as a common guideline for developing any CBT Curriculum. It is expected that CBT curriculum framework will serve the purpose of standardizing the training course development and implementation by various TVET institutions in Bangladesh. We appreciate the contribution of Skills and Employment Programme – Bangladesh, Sudokkho, for developing a common curriculum framework relevant to all occupations.

Chairman
Bangladesh Technical Education Board

Competency Based Training (CBT) Curriculum Framework

If we closely examine the three individual words of “Competency-Based Training” we can begin to obtain an idea about the meaning:

The first word is “Competency.” If you describe a person as "competent", what do you really mean

- The person can DO something. This relates to program CONTENT.
- The person can DO it WELL. This relates to learner ASSESSMENT.

“Competency” is the actual “something” that the person is doing. It is something that can be observed.

The second word is “-Based.” This means, “founded upon or built upon.” In other words, Competency-Based means that the programme is built upon the learner doing things that are observable.

The third word is “Training.” Roger James (1995) defines training: Training is a way of helping people to do things that they could not do before they were trained.

Therefore, the MINIMUM Criteria for a CBT Programme is:

1. Content directly related to work
2. Focus on doing
3. Assessment based on industry work standards

While there exists many definitions of the word “curriculum,” the following definition remains one of the simplest and thereby, possibly the most useful;

Curriculum: A plan for learning.

As implied by the definition above, the purpose of any curriculum is to bring about learning. A curriculum is an official document that describes the content of a particular programme. It is used by the instructor as a base on which to build instructional activities such as classroom lessons, workshop/field activities, assignments, assessments, etc. Thus a curriculum is a very important document and is probably the first document a new instructor should refer to in order to get prepared for instruction.

The purpose of a CBT curriculum is to:

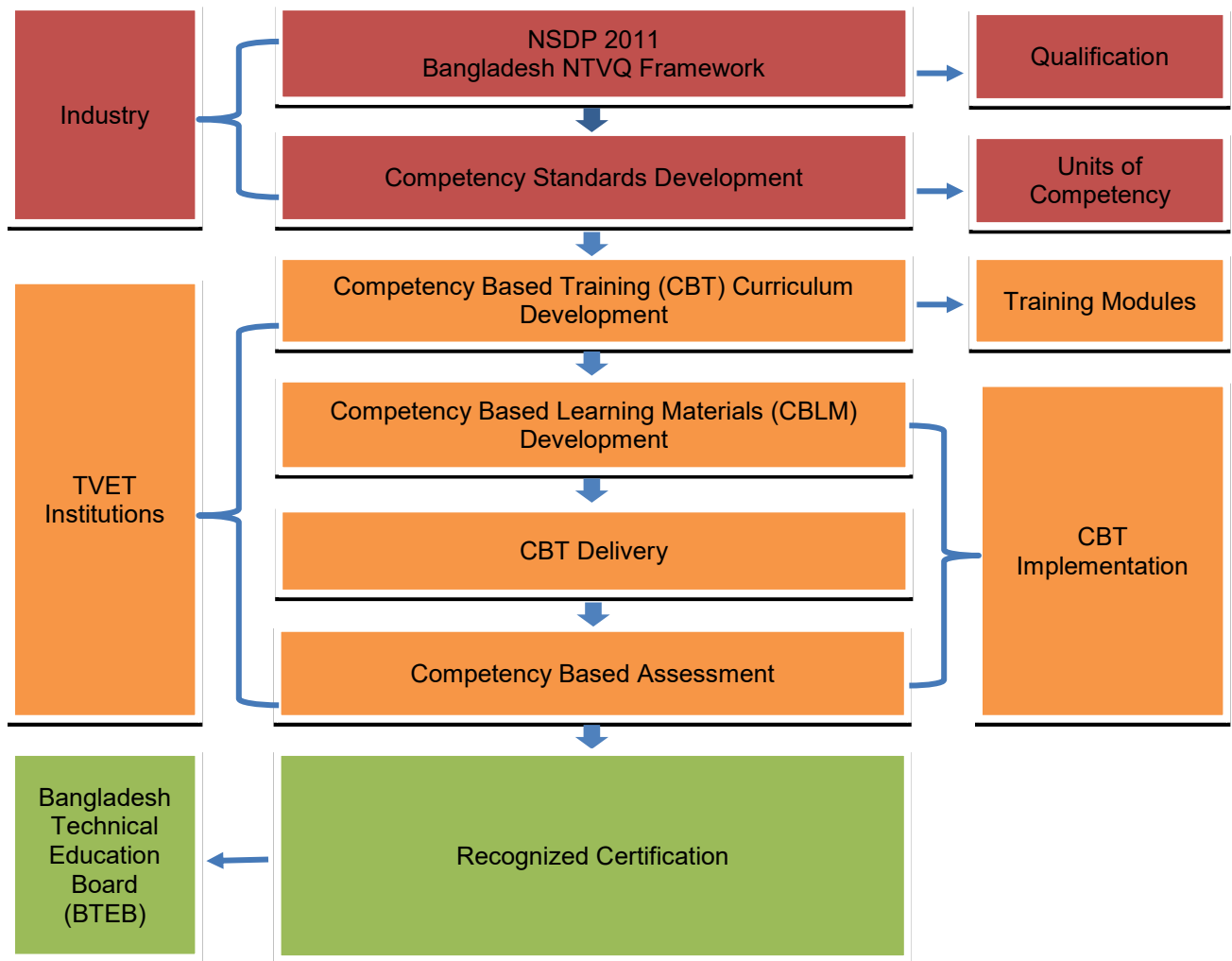
- state the expected content of the programme;
- identify the degree of performance required of the students to be successful in the occupation;
- assist in determining the sequence of the content;
- provide guidelines for assessment or evaluation;
- promote uniform terminology throughout the system.

Competency Based Training and Assessment (CBT&A)

According to Bangladesh National Skills Development Policy 2011, Competency Based Training and Assessment (CBT&A) system will be based on the following principles:

- The skills development system must be responsive to the present and future industry needs and will move to implement a competency based training and assessment (CBT&A) system to achieve that end.
- It is widely recognised that skill needs in the labour market need to be more clearly and precisely defined so that delivery and assessment arrangements can give greater emphasis to practical skills. The CBT&A system will support the introduction of demand-driven training, and will result in the development of partnerships between industry sectors and the training organizations. CBT&A represents a shift away from traditional theory based approaches to delivery and assessment by placing greater emphasis on the achievement and demonstration of practical skills required to perform at a specified standard demanded by industry.
- The CBT&A system will be based on the following principles:
 - a. Progression through a competency based training program will be determined by whether the student has met the set standards, and not by the time spent in training.
 - b. Each learner's achievement is measured against job-related competency standards rather than against the achievement of other learners.
- An important foundation for the introduction of CBT&A is close dialogue with industry to develop clear descriptions of the skills and knowledge required to perform different tasks in the workplace. These units of competency, or competency standards, set the performance criteria that will be assessed in training institutions who issue nationally recognised qualifications.

TVET Framework



Development process for CBT curriculum

The process of development will involve representatives from industry, curriculum developers and subject matter experts, instructors or trainers experienced in the subject matter/industry sector. Following are the criteria for selecting the subject matter experts:

- Recognized expert worker from the industry
- Technical instructor in area/occupation under consideration
- Ability to communicate well and work in a small team

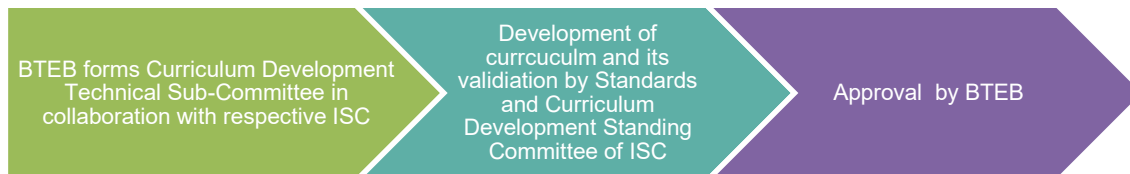
Under the guidance of experienced CBT Curriculum Developers, subject matter experts work together to develop CBT curriculum. Following points to be considered while developing the CBT curriculum:

- CBT Curriculum must be closely linked to national competency standards accepted by the industry;

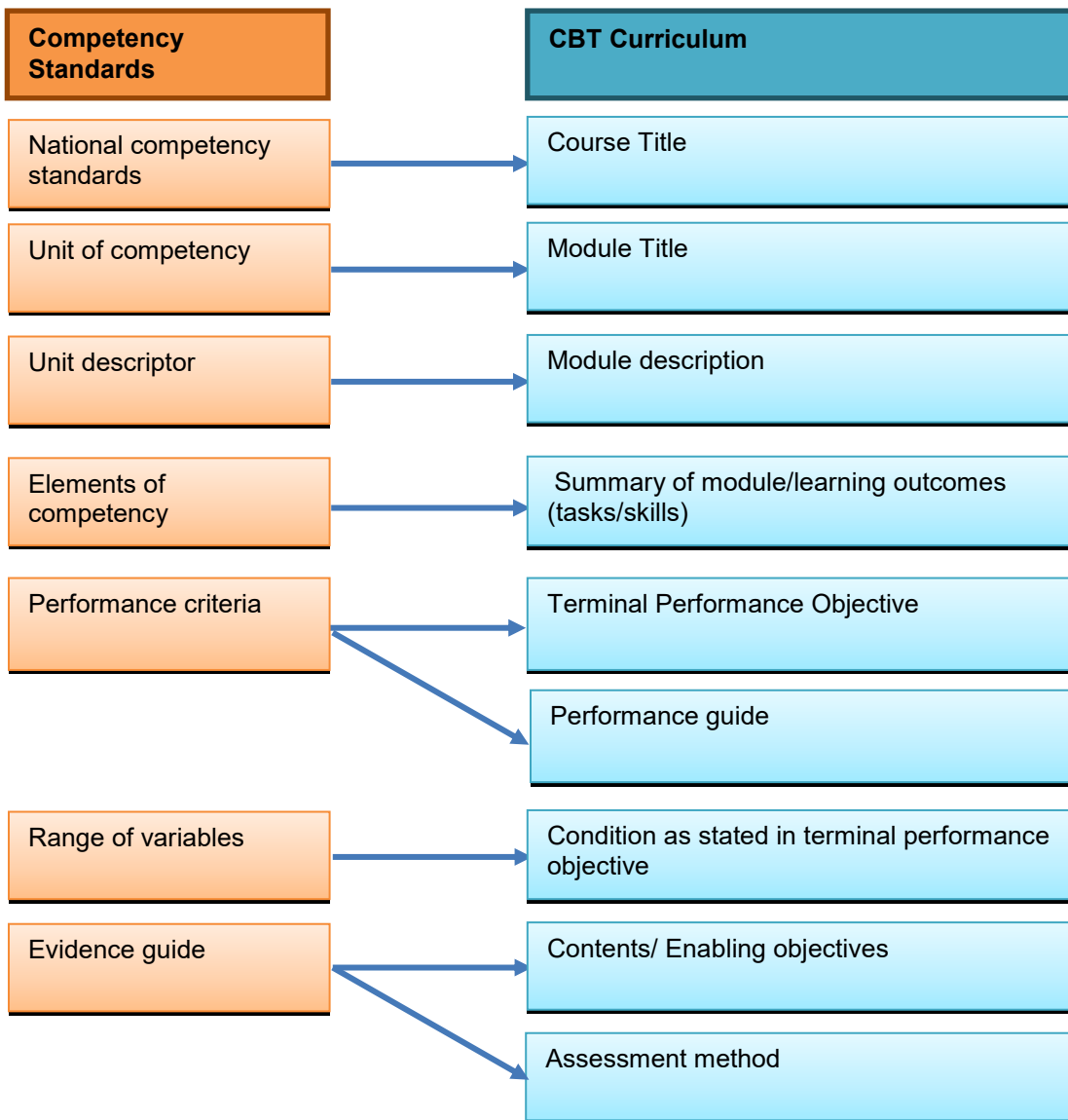
- CBT Curriculum is a framework or guide for the subsequent detailed development of competencies, associated methodologies, training and assessment resources;
- CBT Curriculum specifies the outcomes which are consistent with the requirements of the workplace as agreed through the industry consultations;
- When competency standards do not exist, curriculum developers need to clearly define the learning outcomes to be attained. The standard of performance required must be appropriate to industry and occupational needs.

Protocol for curriculum development:

While developing a new curriculum, Bangladesh Technical Education Board (BTEB) forms a technical sub-committee having experts from the industry and training institutes in collaboration with the respective Industry Skills Council (ISC). This sub-committee will work closely under the guidance of experienced curriculum development facilitator to develop curriculum. The final curriculum will be presented to Standards and Curriculum Development Standing Committee of ISC for validation. ISC will forward the validated curriculum to BTEB for approval. A technical sub-committee, if required, will be formed by BTEB for further scrutiny of curriculum before the final approval. The approved curriculum will then be uploaded to BTEB and respective ISC websites. Following diagram explains development process of curriculum:



Relationship between Competency Standards and CBT Curriculum



Course Title

Course title can be taken from the National Competency Standards

Module Title

Module title relates to the unit of competency of competency standards. However, it does not mean that there will be one training module for each unit of competency. Depending on the learning outcomes/elements included in the unit of competency, number of training modules will be decided. In some cases, one unit of competency may

have two training modules or there may be possibility that two units of competencies merged together to form one training module.

An appropriate name to the module should be given. It should reflect group of elements/learning outcomes considered under that training module. An appropriate way to write module name will be to start with an action verb having 'ing' form.

Module descriptor

Module descriptor relates to unit descriptor of competency standards and explains about the overall objectives of the module with emphasis on learning outcomes.

Learning Outcomes

Learning outcome relates to element(s) of the competency standards. It describes what skills, knowledge and attitude that students will learn to apply at the workplace. Learning outcome can be described in terms of task statement which will contain observable performance to be exhibited by the end of training (single action verb and the object of the verb). Following characteristics should be followed while writing task statements:

- Is specific
- Is observable
- Has its own unique procedure
- Is a unit of work complete in itself
- Can be broken down into two or more steps
- Can be performed in a limited period of time
- Has definite start and end point
- When task is completed, it results in a product, service, or decision

Terminal performance objective

Terminal performance objective relates to performance criteria of competency standards. Even though they look similar, terminal performance objective and Industry Performance Standards for a skill are different. Industry standard is established for the work context. A terminal performance objective is developed for a training context. For any given task/learning outcome, the terminal performance objective is closely related to the industry standards. In many instances they are identical. On occasions however, the terminal performance objective may be either less or greater than the industry standards. Airline pilots and police officers usually train to a higher standard of performance than expected of them in actual work.

Terminal performance objective contains three major parts:

Given (Condition):The "Given" statement will describe any condition or variable that can affect the overall performance level of students. ***This relates to range of variables in the competency standards.*** Conditions under which the learning and assessment will take place should be clearly specified as it will impact on the performance of

students. These can include a list of tools and equipment, access to learning resources and equipment manual and the type of facility.

What (Task/learning outcome) - The “What” statement will contain the observable performance to be exhibited by the end of the training (single action verb and the object of the verb. This is same as task/learning outcome as described above.

How well (performance criteria) -The “How well” statement will contain only the most important performance criteria to be measured at the end of training. ***This relates to performance criteria of National Competency Standards.*** Only most important criteria should be listed for the performance of task/learning outcome which can be observed and measured.

For simplicity, only conditions and performance criteria will be used for the development of curriculum.

Performance guide

For many tasks, the procedure used in doing the skill is more important than any product developed. When a student is first learning to do a task that is complex or dangerous--the performance guide is very important. The performance guide is the series of steps, done in proper sequence, which accomplishes a task. This is also termed as performance procedure. The performance guide can also be used to assess student performance.

Enabling objective

An enabling objective is a statement expressing a knowledge, skill or attitude that if mastered will "enable" the trainee to accomplish a terminal performance objective or a task/learning outcome. ***Enabling objective relates to the underpinning knowledge, skills and attitude in the National Competency Standards.*** This is also termed as 'content' which directly relates to achieve learning outcomes.

Nominal duration

Nominal duration is estimated to allocate number of hours for each task/learning outcome. The estimate is made based on the size of the task and how long a student will require to learn to perform it competently.

Assessment method

Assessment method will remain same as stated in the National Competency Standards. It will help to assess performance of the students whether they are able to demonstrate learning outcomes (knowledge, skills and attitudes) at desired standards. Assessment method must collect evidences to assure learning has been transferred to the students. A holistic approach, where appropriate, can be applied for the assessment of students and gathering of evidences for one or more learning outcomes.

Contents of CBT Curriculum Framework

Course title	Course title will be aligned with National Competency Standards
Course duration	Nominal duration of course in hours
Qualification Level	Refer to the national competency standards
Unit of Competency	Refer to the list of unit of competency from the national competency standards
Course description	The course description will include relevance of the proposed course to industry, enterprise or community needs and competencies that the student will attain after completion of the training.
Course outcomes	Course outcomes state what is expected from the students at the end of training course. A list of key competencies which will be mastered during the training and helpful to acquire jobs should be included.
Entry Requirements	Entry requirements for the training should be mentioned in terms of education, age or any other pre-requisites to participate in the training course. For detail, please refer to the Course Accreditation Document.
Suggestions for course delivery/instruction	A brief explanation about how training will be delivered in classroom and workshop setting should be included.
Training Methods	<p>Methods are defined as a commonly accepted procedure or process performed by the teacher, learner or both, whose aim is to increase the efficiency and/or effectiveness of learning. There are many methods available for the training. From an instructional viewpoint, an instructor must be competent in the use of a wide variety of methods. The more methods an instructor is competent with, the more effective and efficient his/her instruction should be. However, the instructor must know when to use each method for specific learning competencies. Some of the common methods used during the training are:</p> <ul style="list-style-type: none"> • Demonstration • Guided practice • Independent practice • Project work • Problem solving • Coaching • Illustrated talk • Role play • Discussion • Brainstorming

Course structure	Provide sequence of different training modules for each Unit of Competency including detail elaboration on conditions how and where tasks will be performed, performance criteria, performance guide, and enabling objectives.
Competency Analysis	Explain about number of modules developed under each Unit of Competency
Assessment Method	Explain the assessment approach to gather evidence to determine whether students have met minimum performance standards based on the industry requirements.
Resources	List of required tools, equipment and materials to implement the training course. For detail, please refer to Course Accreditation Document.
Qualification of Instructors	Specify minimum requirements for the instructors to implement the training course. For detail, please refer to Quality Assurance System Manual.
Training Schedule	A training schedule will consist of training modules, duration and training methodologies to be applied for class, workshop and field instructions.

Sample Framework for CBT Curriculum for Reference



Competency Based Training (CBT)

Curriculum

Mason – National Certificate Level - I



Approval Sheet

Developed under the
guidance and technical
assistance by:

Name of the project/organization:

Validated by:

Chairperson, Standards and Curriculum Development
Standing Committee

On behalf of respective Industry Skills Council (ISC)

Approved by:

Bangladesh Technical Education Board

Course title	Mason - National Skills Certificate (NSC) -I
Course duration	360 hours
Qualification Level	National Skills Certificate (NSC) - I
Unit of Competency	<p>List unit of competency from CS</p> <ol style="list-style-type: none"> 1. GN0100112A Communicate in the workplace 2. GN0100212A Work in a team environment 3. GN0100312A Practice workplace cleanliness 4. GN0100412A Practice occupational health and safety (OHS) 5. CON0100112A Work in the Construction Sector 6. CON0100212A Interpret Drawings and Specifications in Construction Manuals 7. CON0100312A Use Hand Tools and Power Tools for the Construction Sector 8. CONMAS0100112A Prepare Masonry Mortar 9. CONMAS0100212A Perform Paving Work 10. CONMAS0100312A Perform Basic masonry works 11. CONMAS0100412A Perform Plaster on masonry surface
Course description	<p>This is a competency based training curriculum designed for unemployed and underemployed workforce of Bangladesh to enhance desired knowledge, skills and attitude for a Mason Occupation meeting the industry standards. The curriculum covers various competencies such as brick works, plastering of masonry surface, handling of tools and equipment, application safety procedures along with communication and team building skills.</p>
Course outcomes	<p>After completion of the training course, students will be able to:</p> <ul style="list-style-type: none"> - Communicate in the workplace - Work in a team environment - Practice workplace cleanliness - Practice occupational health and safety (OHS) - Interpret drawings and specifications given in construction manuals - Use hand tools and power tools for the Construction Sector - Prepare masonry mortar - Perform paving work - Perform basic masonry works - Perform plaster on masonry surface

Entry Requirements	Grade VIII completed (please refer to the Course Accreditation Document)
Suggestions for course delivery/instruction	<ul style="list-style-type: none"> • At least 80% time of the course will be allocated for practical purpose • Maximum 20% time of the course will be allocated for theoretical purpose • Follow the safety rules • Create friendly learning environment • Arrange adequate materials, tools and equipment for enough practice opportunities for the students • Focus on learning and not on teaching (learner centered training) • Arrange question and answer (Q&A) sessions • Make session plans for classroom / workshop instructions
Training methods	<p>A wide variety of methods can be applied depending on the competencies and students learning capacity. Instructors should select appropriate methods to transfer skills to the students. Some of the common methods used during the skills training are:</p> <ul style="list-style-type: none"> • Demonstration • Guided practice • Independent practice • Project work • Problem solving • Coaching • Illustrated talk • Role play • Discussion • Brainstorming

Course Structure	
Sector	Construction
Unit of competency	11. CONMAS0100412A Perform plaster on masonry surface
Module title	Module -1: Plastering on Masonry Surface
Module descriptor	This module covers knowledge, skills and attitude required to perform plaster works on masonry surface. It includes preparation of mortar and masonry surfaces for plaster works, performing plaster on plain and corner surface, and curing of plastering works.
Nominal duration	48 hours
Certificate level	National Skills Certificate - I
Prerequisite	None
Learning outcomes:	After the training, students will be able to: 1. Perform plaster on plain surface 2. Perform corner plastering 3. etc. 4. etc. -
Learning outcome -1: Perform plaster on plain surface	
Condition	Given cement, sand, water, brush/coconut broom, bucket, hose pipe, trowel and a simulated plain surface
Performance criteria	<ul style="list-style-type: none"> • Sand is screened and washed as required • Sand and cement mixture is screened before applying water • Plastered surface must be even and uniform • There must not be any crack on the plaster • Plaster surface must not be rusty • Variations of the plaster level must be within 12 ±2 mm
Performance guide	Steps: 1. Collect required tools and materials. 2. Perform chipping on floor 3. Clean the floor by coconut broom 4. Sprinkle water on the floor 5. Apply grouting by using brush 6. Level the plaster area by using four tip (paya/bench mark) on four corner point 7. Prepare mortar for the plastering floor 8. Place the mortar on the floor with trowel 9. Level the surface by using aluminium patta 10. Rub the plaster surface by wooden trowel (Usha) clockwise 11. Check the level of the surface for uniformity by spirit level

	12. Clean the plaster with foam and flower broom 13. Clean the tools and workplace 14. Restore the tools and materials at the appropriate place
Enabling objective	<ul style="list-style-type: none"> • Explain mortar ratio for plastering • Explain the procedure of plastering on floor • Explain why additional cement and sand is used during plastering
Learning outcome -2: Perform corner plastering	
Condition	--
Performance criteria	--
Performance guide	--
Enabling objective	--

Competency analysis	<p>This table reflects number of modules developed for each unit of competency</p> <table border="1"> <thead> <tr> <th>Unit of Competency (UoC)</th><th>Number of modules</th></tr> </thead> <tbody> <tr><td>UoC -1</td><td>1</td></tr> <tr><td>UoC-2</td><td>1</td></tr> <tr><td>UoC-3</td><td>1</td></tr> <tr><td>UoC-4</td><td>1</td></tr> <tr><td>UoC-5</td><td>1</td></tr> <tr><td>UoC-6</td><td>1</td></tr> <tr><td>UoC-7</td><td>1</td></tr> <tr><td>UoC-8</td><td>1</td></tr> <tr><td>UoC-9</td><td>1</td></tr> <tr><td>UoC-10</td><td>1</td></tr> <tr><td>UoC-11</td><td>1</td></tr> </tbody> </table>	Unit of Competency (UoC)	Number of modules	UoC -1	1	UoC-2	1	UoC-3	1	UoC-4	1	UoC-5	1	UoC-6	1	UoC-7	1	UoC-8	1	UoC-9	1	UoC-10	1	UoC-11	1
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Assessment method	<p>Following assessment methods can be used to collect evidence for learning but not limited to:</p> <ul style="list-style-type: none"> • Written test • Demonstration • Oral interview 																								
Resources	<p>Please refer to Course Accreditation Document for the list of required tools, equipment and materials to implement the training course.</p>																								
Qualification of Instructors	<p>Please refer to Quality Assurance System Manual for minimum requirements of the instructors.</p>																								

Training Schedule

Unit of Competency	Module	Duration*	Training method (s)**
11. CONMAS0100412A Perform plaster on masonry surface	Module -1: Plastering on Masonry Surface	48 hours	<ul style="list-style-type: none"> • Demonstration • Guided practice • Independent practice • Project work • Coaching

* Duration of each training module is estimated based on the inputs of the experts. Some competencies are complex and critical than others and therefore number of hours may vary for teaching learning process. Instructors have flexibility to judge for proper utilization of estimated duration while teaching individual competency to the students.

** Training method (s) will be determined by the instructor depending upon the capacity and basic skills of the students. More than one method will be required to transfer the skills to the students.