



# Skills for Employment Investment Program (SEIP)

## COMPETENCY STANDARD FOR COMPUTER AIDED DESIGN (CAD) FOR GARMENTS *(RMG SECTOR)*

Finance Division, Ministry of Finance  
Government of the People's Republic of Bangladesh

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The Competency Standard for CAD for Garments 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 for individuals who graduated through the established standard via competency-based assessment to be suitably qualified for a relevant job.

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## Introduction

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The Skills for Employment Investment Program (SEIP) Project of the Finance Division of the Ministry of Finance has embarked on a project which aims to qualitatively and quantitatively expand the skilling capacity of identified public and private training providers by establishing and operationalising a responsive skill ecosystem and delivery mechanism through a combination of well-defined set of funding triggers and targeted capacity support.

Among the many components of the project, one is to promote a Market Responsive Inclusive Skills Training Delivery programme. Key priority economic growth sectors identified by the government have been targeted by the project to improve current job skills along with up-skilling of the 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 programmes. Priority sectors were identified to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

This document 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.

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

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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 national and international subject-matter experts, SEIP, BTEB, ISC, and industry experts to identify the competencies required of an occupation in a particular sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. Competency standards acknowledge that people can achieve technical and vocational competency in many ways by emphasising 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 guide

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

Identification and validation of units of competency and elements for this occupation were made by experts within this sector. A series of meetings were held to accurately capture industry and employer needs and expectations, and develop the competency framework that would help to enhance the employability of the

youth trained. This process started in January 2018 and concluded with a validation workshop with working group on 25 March 2018.

### Experts Involved

Industry and subject-matter experts who provided their valuable inputs to develop this competency standard (January – March 2018):

Name	Organisation	Designation
Md. Atikur Rahaman	AR Jeans Producer Limited	Technical Manager
Md. Zubayer Alam	Institute of Science Trade & Technology (ISTT)	HOD, DTFM
Md. Masud Rana	Vintage Denim Studio Limited	Pattern Master
Md. Abdur Rahman	ABA Garments Limited	Pattern Master
Md. Delower Hossain	ABA Fashion Limited	Pattern Master
Md. Amir Hossain	Dhaka Ahsania Mission (DAM)	Assistant Consultant - RMG sector
Syed Azharul Haque	British Council - SD03	National Subject Matter Consultant - RMG Sector

### Development Workshop

Working group formation and competency standard development workshop participants (18 March 2018).

Name	Organisation	Designation
M.I Siddique (Selim Mahbub)	BKMEA & ISC	Vice President & Member
Zoglul Haider	BGMEA	Chief Coordinator
Hedayet islam khan	BGMEA	Coordinator (Up Skilling)
Muhibullah	BGMEA	Coordinator
Md. Atikur Rahman	AR Jeans Producer Limited	Technical manager
Md. Masud Rana	Vintage Denim Studio	Pattern Master
Ruhul Amin Rana	Brothers Fashion Limited	Senior Technician
Md. Zubayer Alam	Institute of Science and Trade & Technology	HOD
Rony Mia	NITER	Lecturer
Engr. Abdur Razzaque	SEIP	Specialist-1 Competency Standard

Name	Organisation	Designation
Md. Amir Hossain	Dhaka Ahsania Mission (DAM)	Assistant Consultant - RMG sector
Syed Nasir Ershad	SEIP	AEPD (Public-1)
Mr. Md. Ahsan Habib	SEIP	TVET Specialist
Mr. Mohiuzzaman	SEIP	Course Specialist
Ananda Falia	BTEB	Assistant Controller
David King	British Council - SD03	Team Leader
Syed Azharul Haque	British Council - SD03	National Subject Matter Consultant - RMG Sector

### Validation Workshop

Competency standard validation workshop participants (25 March 2018).

Name	Organisation	Designation
M.I Siddique (Selim Mahub)	BKMEA & ISC	Vice President & Member
Zoglul Haider	BGMEA	Chief Coordinator
Md. Milon Khan	Tanaz Fashion Limited	Senior Technical officer
Md. Abdur Rahman	Aba Group	Pattern Master
Md. Zubayer Alam	Institute of Science and Trade & Technology	HOD
Rony Mia	NITER	Lecturer
Md. Atikur Rahman	AR Jeans Producer Limited	Technical Manager
Engr. Abdur Razzaque	SEIP	Specialist-1 Competency Standard
Syed Nasir Ershad	SEIP	AEPD (Public-1)
Mr. Md. Ahsan Habib	SEIP	TVET Specialist
Mr. Mohiuzzaman	SEIP	Course Specialist
Ananda Falia	BTEB	Assistant Controller
Md. Amir Hossain	Dhaka Ahsania Mission (DAM)	Assistant Consultant - RMG sector
David King	British Council - SD03	Team Leader
Syed Azharul Haque	British Council - SD03	National Subject Matter Consultant - RMG Sector

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 Chart

Units of Competency	Elements		
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### A. Generic (basic) Competencies (40 hours)

Use basic mathematical concepts SEIP-RMG-CAD-01-G	Identify calculation requirements in the workplace	Select appropriate mathematical methods/concepts for the calculation	Use tools and instruments to perform calculations
Carry out workplace interaction SEIP-RMG-CAD-02-G	Interpret workplace communication and etiquette	Read and understand workplace documents	Participate in workplace meetings and discussions
	Practice professional ethics at work		
Operate in a team environment SEIP-RMG-CAD-03-G	Identify team goals and work processes	Identify own role and responsibility within team	Communicate and co-operate with team members
	Practice problem-solving within the team		
Apply basic IT skills SEIP-RMG-CAD-04-G	Identify and use most commonly used IT tools	Understand use of computer	Work with word processing application
	Access email and search the internet		

### B. Sector-specific (common) Competencies (60 hours)

Understand the RMG business SEIP-RMG-CAD-01-S	Identify basic business communication practices	Recognise the history of RMG industry in Bangladesh	Identify major departments of RMG sector
	List prime export markets		
Apply occupational health and safety (OHS) practice in the workplace SEIP-RMG-CAD-02-S	Identify OHS policies and procedures	Apply personal health and safety practices	Report hazards and risks
	Respond to emergencies		

Perform measurements and calculations SEIP-RMG-CAD-03-S	Select measuring devices	Obtain measurements for apparel	Perform simple calculations
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Read and interpret sketches and drawings SEIP-RMG-CAD-04-S	Interpret information and specifications	Read and interpret sketches and drawings
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### C. Occupation-specific (core) Competencies (260 hours)

Interpret fundamentals of CAD operations SEIP-RMG-CAD-01-O	Understand requirements of CAD	Interpret job responsibility of CAD operators	Identify parts, points and measuring guides of garments
	Interpret manual pattern and marker making		

Perform CAD installation and operation SEIP-RMG-CAD-02-O	Identify hardware and software required for CAD	Install CAD software
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Operate system of pattern making SEIP-RMG-CAD-03-O	Identify functions to operate system	Perform pattern making with software
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Perform digitizing patterns SEIP-RMG-CAD-04-O	Prepare for digitizing	Operate digitizer
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Perform pattern grading SEIP-RMG-CAD-05-O	Interpret size and measurement differences	Apply rule table for grading	Prepare and save graded patterns
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Create marker and print SEIP-RMG-CAD-06-O	Make marker	Print pattern and marker
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## Units and Elements Table

### A. Generic (basic) Competencies

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-RMG-CAD-01-G	Use basic mathematical concepts	<ol style="list-style-type: none"> <li>1. Identify calculation requirements in the workplace.</li> <li>2. Select appropriate mathematical methods/concepts for the calculation.</li> <li>3. Use tools and instruments to perform calculations.</li> </ol>	8
SEIP-RMG-CAD-02-G	Carry out workplace interaction	<ol style="list-style-type: none"> <li>1. Interpret workplace communication and etiquette.</li> <li>2. Read and understand workplace documents.</li> <li>3. Participate in workplace meetings and discussions.</li> <li>4. Practice professional ethics at work.</li> </ol>	8
SEIP-RMG-CAD-03-G	Operate in a team environment	<ol style="list-style-type: none"> <li>1. Identify team goals and work processes.</li> <li>2. Identify own role and responsibility within team.</li> <li>3. Communicate and co-operate with team members.</li> <li>4. Practice problem-solving within the team.</li> </ol>	8
SEIP-RMG-CAD-04-G	Acquire basic IT skills	<ol style="list-style-type: none"> <li>1. Identify and use most commonly used IT tools.</li> <li>2. Understand use of computer.</li> <li>3. Work with word processing application.</li> <li>4. Access email and search the internet.</li> </ol>	16
<b>Total Hours</b>			<b>40</b>

### B. Sector-specific (common) Competencies

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-RMG-CAD-01-S	Understand the RMG business	<ol style="list-style-type: none"> <li>1. Identify basic business communication practices.</li> <li>2. Recognise the history of RMG industry in Bangladesh.</li> <li>3. Identify major departments of RMG sector.</li> <li>4. List prime export markets.</li> </ol>	12

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-RMG-CAD-02-S	Apply occupational health and safety (OHS) practice in the workplace	<ol style="list-style-type: none"> <li>1. Identify OHS policies and procedures.</li> <li>2. Apply personal health and safety practices.</li> <li>3. Report hazards and risks.</li> <li>4. Respond to emergencies.</li> </ol>	8
SEIP-RMG-CAD-03-S	Perform measurements and calculations	<ol style="list-style-type: none"> <li>1. Select measuring devices.</li> <li>2. Obtain measurements for apparel.</li> <li>3. Perform simple calculations.</li> </ol>	20
SEIP-RMG-CAD-04-S	Read and interpret sketches and drawings	<ol style="list-style-type: none"> <li>1. Interpret information and specifications.</li> <li>2. Read and interpret sketches and drawings.</li> </ol>	20
<b>Total Hours</b>			<b>60</b>

### C. Occupation-specific (core) Competencies

Code	Unit of Competency	Elements of Competency	Duration (hours)
SEIP-RMG-CAD-01-O	Interpret fundamentals of CAD operations	<ol style="list-style-type: none"> <li>1. Understand requirements of CAD.</li> <li>2. Interpret job responsibility of CAD operators.</li> <li>3. Identify parts, points and measuring guides of garments.</li> <li>4. Interpret manual pattern and marker making.</li> </ol>	30
SEIP-RMG-CAD-02-O	Perform CAD installation and operation	<ol style="list-style-type: none"> <li>1. Identify hardware and software required for CAD.</li> <li>2. Install CAD software.</li> </ol>	10
SEIP-RMG-CAD-03-O	Operate system of pattern making	<ol style="list-style-type: none"> <li>1. Identify functions to operate system.</li> <li>2. Perform pattern making with software.</li> </ol>	100
SEIP-RMG-CAD-04-O	Perform digitizing patterns	<ol style="list-style-type: none"> <li>1. Prepare for digitizing.</li> <li>2. Operate digitizer.</li> </ol>	30
SEIP-RMG-CAD-05-O	Perform pattern grading	<ol style="list-style-type: none"> <li>1. Interpret size and measurement differences.</li> <li>2. Apply rule table for grading.</li> <li>3. Prepare and save graded patterns.</li> </ol>	30
SEIP-RMG-CAD-06-O	Create marker and print	<ol style="list-style-type: none"> <li>1. Mark marker.</li> <li>2. Print pattern and marker.</li> </ol>	60
<b>Total Hours</b>			<b>260</b>

## Competency Standard

### A: Generic (basic) Competencies

<b>Unit of Competency:</b> Use basic mathematical concepts	<b>Nominal Duration:</b> 25 hours	<b>Unit Code:</b> SEIP-RMG-CAD-01-G
<b>Unit Descriptor:</b> <p>This unit covers the skills, knowledge and attitudes required to perform computations using basic mathematical concepts in the workplace. It specifically includes identifying general calculation requirements, selecting appropriate mathematical method/concept, form and solve mathematical problems in the workplace using appropriate tools and instruments.</p>		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Identify calculation requirements in the workplace	1.1. <b><u>Calculation requirements</u></b> are identified from <b><u>workplace information</u></b> . 1.2. Mathematical problems are constructed from workplace information.
2. Select appropriate mathematical methods/concepts for the calculation	2.1. <b><u>Appropriate method</u></b> is selected to carry out calculation requirements. 2.2. Constructed mathematical problems are solved with appropriate method.
3. Use tools and instruments to perform calculations	3.1. Tools and instruments required for computation are identified. 3.2. Calculation is performed using appropriate tools and instruments accurately.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Calculation requirements	1.1. Unit 1.2. Area 1.3. Height/ length/ breadth/ thickness 1.4. Diameter 1.5. Weight 1.6. Capacity 1.7. Time 1.8. Temperature 1.9. Material/data usage 1.10. Speed 1.11. Costing 1.12. Mass 1.13. Density

Variable	Range ( <i>may include but not limited to</i> )
2. Workplace information	2.1. Floor environment 2.2. Design sheet 2.3. Specification sheet 2.4. Working chart/drawing 2.5. Standard operating procedure (SOP) 2.6. Job order 2.7. Verbal instructions
3. Appropriate method	3.1. Addition 3.2. Subtraction 3.3. Division 3.4. Multiplication 3.5. Conversion 3.6. Percentage and ratio calculation 3.7. Simple equation
4. Tools and instruments	4.1. Calculator 4.2. Cell phone 4.3. Computer 4.4. Ruler

Curricula Content Guide	
1. Underpinning knowledge	1.1. Numerical concepts 1.2. Basic mathematical methods such as addition, subtraction, multiplication, division and percentage 1.3. Mathematical language, symbols and terminology 1.4. Measuring units
2. Underpinning skills	2.1. Construct simple problems from workplace information 2.2. Solve problems using appropriate method, tools and instruments 2.3. Use appropriate tools and instruments
3. Underpinning attitudes	3.1 Prompt in carrying out activities 3.2 Tidy and punctual 3.3 Respectful of peers, subordinates and seniors in the workplace 3.4 Safely use tools and equipment 3.5 Sincere and honest concerning duties

## Curricula Content Guide

### 4. Resource implications

The following resources must be provided:

- 4.1. Workplace (simulated or actual)
- 4.2. Calculator
- 4.3. Cell phone
- 4.4. Computer
- 4.5. Measuring tape
- 4.6. Ruler
- 4.7. Stationary
- 4.8. Learning manual

## Assessment Evidence Guide

### 1. Critical aspects of competency

Assessment must evidence that the candidate:

- 1.1. identified calculation requirements from workplace information
- 1.2. selected appropriate method to carry out the calculation requirements
- 1.3. completed calculations using appropriate tools and instruments

### 2. Methods of assessment

Methods of assessment may include but is not limited to:

- 2.1. written test
- 2.2. oral test
- 2.3. observation
- 2.4. demonstration
- 2.5. portfolio

### 3. Context of assessment

- 3.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 3.2. Assessment must be done by a suitably qualified/certified assessor.

<b>Unit of Competency:</b> Carry out workplace interaction	<b>Nominal Duration:</b> 8 hours	<b>Unit Code:</b> SEIP-RMG-CAD-02-G
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to carry out workplace interaction. It specifically includes workplace communication, etiquette, understanding workplace documents, workplace meetings and discussions, and professional ethics at work.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Interpret workplace communication and etiquette	1.1. Workplace codes of conduct are interpreted as per organisational guidelines. 1.2. Appropriate lines of communication are maintained with supervisors and colleagues. 1.3. Workplace interactions are conducted in a <b><u>courteous manner</u></b> to gather and convey information. 1.4. <b><u>Workplace procedures and matters</u></b> are comprehended.
2. Read and understand workplace documents	2.1. Workplace documents are interpreted correctly. 2.2. Visual information/symbols/signage are understood correctly and followed. 2.3. Specific and relevant information are accessed from <b><u>appropriate sources</u></b> . 2.4. Appropriate medium is used to transfer information and ideas.
3. Participate in workplace meetings and discussions	3.1. Team meetings are attended on time. 3.2. Meeting procedures and etiquette are followed. 3.3. Active participation is ensured, opinions are expressed and heard. 3.4. Inputs are provided and interpreted in line with the meeting purpose.
4. Practice professional ethics at work	4.1. Responsibilities as a team member are performed. 4.2. Tasks are performed in accordance with workplace procedures. 4.3. Confidentiality is maintained. 4.4. Inappropriate and conflicting situations are avoided.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Courteous manner	1.1. Effective questioning 1.2. Active listening 1.3. Speaking skills



Variable	Range ( <i>may include but not limited to</i> )
2. Workplace procedures and matters	2.1. Notes 2.2. Arranging a meeting 2.3. Agenda 2.4. Simple reports such as progress and incident reports 2.5. Job sheets 2.6. Operational manuals 2.7. Brochures and promotional material 2.8. Visual and graphic materials 2.9. Standards 2.10. OHS information 2.11. Signs
3. Appropriate sources	3.1. Human Resources (HR) Department 3.2. Managers 3.3. Supervisors

Curricula Content Guide	
1. Underpinning knowledge	1.1. Workplace communication and etiquette 1.2. Workplace documents, signs and symbols 1.3. Meeting procedure and etiquette 1.4. Professional ethics
2. Underpinning skills	2.1. Demonstrate workplace communication and etiquette 2.2. Interpret workplace instructions and symbols 2.3. Demonstrate active participation in workplace meeting 2.4. Apply professional ethics at work
3. Underpinning attitudes	3.1. Prompt in carrying out activities 3.2. Tidy and punctual 3.3. Respectful of peers, subordinates and seniors in the workplace 3.4. Concerned about the work environment 3.5. Sincere and honest concerning duties
4. Resource implications	The following resources must be provided: 4.1. Workplace (simulated or actual) 4.2. Workplace procedures 4.3. Workplace documents, signs and symbols 4.4. Codes of conduct 4.5. Materials relevant to the proposed activity 4.6. Projector 4.7. Relevant specifications or work instructions stationary 4.8. Learning manual

<b>Assessment Evidence Guide</b>	
<b>1. Critical aspects of competency</b>	<p>Assessment must evidence that the candidate:</p> <ul style="list-style-type: none"> <li><b>1.1.</b> interpreted workplace communication and etiquette</li> <li><b>1.2.</b> interpreted workplace instructions and symbols</li> <li><b>1.3.</b> performed active participation in workplace meetings</li> </ul>
<b>2. Methods of assessment</b>	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"> <li><b>2.1.</b> written test</li> <li><b>2.2.</b> oral test</li> <li><b>2.3.</b> observation</li> <li><b>2.4.</b> demonstration</li> <li><b>2.5.</b> portfolio</li> </ul>
<b>3. Context of assessment</b>	<ul style="list-style-type: none"> <li><b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.</li> <li><b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.</li> </ul>

<b>Unit of Competency:</b> Operate in a team environment	<b>Nominal Duration:</b> 8 hours	<b>Unit Code:</b> SEIP-RMG-CAD-03-G
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to operate in a team environment. It specifically includes team goals and work processes, roles and responsibilities, team communication and problem solving within the team.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Identify team goals and work processes	<p>1.1. Roles and objectives of the team are identified and interpreted.</p> <p>1.1. Roles and responsibilities of team members are identified and interpreted.</p>
2. Identify own role and responsibilities within team	<p>2.1. Personal role and responsibilities are identified within the team environment.</p> <p>2.2. Reporting relationships are interpreted within team and external to team.</p>
3. Communicate and co-operate with team members	<p>3.1. Other teammates' tasks are identified and support provided when requested.</p> <p>3.2. The team is encouraged through <b><u>sharing information</u></b> or expertise, working together to solve problems, and putting team success first.</p> <p>3.3. Views and opinions of other team members are interpreted and respected.</p>
4. Practice problem solving within the team	<p>4.1. Problems faced at the individual and team level are identified and showed insight into the root-causes of the problems.</p> <p>4.2. A range of solutions and courses of action are identified together with benefits, costs, and risks associated with each.</p> <p>4.3. The good ideas of others to help develop solutions are recognised and advice sought from those who have solved similar problems.</p> <p>4.4. It is looked beyond the obvious and not stopped at the first answers.</p>

## Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Sharing information	1.1. Agenda 1.2. Minutes 1.3. progress and incident reports 1.4. Operational manuals 1.5. Visual and graphic materials 1.6. Emails and SMS 1.7. Phone directory 1.8. Policy, procedure and standards 1.9. OHS information

Curricula Content Guide	
1. Underpinning knowledge	1.1. Team goals and work processes 1.2. Roles and responsibilities 1.3. Finding problems and solving them
2. Underpinning skills	2.1. Identify own role and responsibility within team 2.2. Communicate and co-operate with team members 2.3. Demonstrate problem solving within the team
3. Underpinning attitudes	3.1. Active on teamwork 3.2. Prompt in carrying out activities 3.3. Tidy and punctual 3.4. Respectful of peers, subordinates and seniors in the workplace 3.5. Sincere and honest concerning duties
4. Resource implications	The following resources must be provided: 4.1. Workplace (simulated or actual) 4.2. Projector 4.3. Stationary 4.4. Learning manual

Assessment Evidence Guide	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. identified own role and responsibility within team 1.2. communicated and co-operated with team members 1.3. demonstrated problem solving within the team

## Assessment Evidence Guide

<b>2. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>2.1.</b> written test <b>2.2.</b> oral test <b>2.3.</b> observation <b>2.4.</b> demonstration <b>2.5.</b> portfolio
<b>3. Context of assessment</b>	<b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.

<b>Unit of Competency:</b> Apply basic IT skills	<b>Nominal Duration:</b> 16 hours	<b>Unit Code:</b> SEIP-RMG-CAD-04-G
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to apply basic IT skills in the workplace. It specifically includes identifying IT tools, using computer, word processing and spreadsheet application, email and searching on internet.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Identify and use most commonly used IT tools	1.1. History of information technology (IT) is identified and summarised. 1.2. Commonly used <b><u>IT tools</u></b> are identified and described.
2. Understand use of computer	2.1. Basic parts of a computer are identified. 2.2. Turning on and off technique of a computer is performed. 2.3. Working environment, functions and features of operating system is interpreted. 2.4. Simple trouble-shooting techniques are applied.
3. Work with word processing application	3.1. Word processing application appropriate to perform activity is operated. 3.2. Basic typing technique to document is applied. 3.3. Word processing techniques to document are employed. 3.4. Personal CV writing using suitable word processing techniques is practiced. 3.5. Saving and retrieving technique of a document is used.
4. Work with spreadsheets	4.1. Spreadsheet working environment, functions and features are identified and interpreted. 4.2. Data entry on spreadsheet appropriate to perform activity is performed. 4.3. <b><u>Data manipulation techniques</u></b> to spreadsheet document are applied. 4.4. Spreadsheet document is created and saved.
5. Access email and search the internet	5.1. Use of email account in online environment is explained. 5.2. Writing and sending of workplace emails is completed. 5.3. Different <b><u>browsers</u></b> to work online are identified and selected. 5.4. Browse different web portals and apply proper search techniques.

## Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. IT tools	<ul style="list-style-type: none"> <li>1.1. Cell phone</li> <li>1.2. Tablets</li> <li>1.3. Computers, laptops, notebooks</li> <li>1.4. Internet</li> <li>1.5. Software</li> </ul>
2. Data manipulation techniques	<ul style="list-style-type: none"> <li>2.1. Sum</li> <li>2.2. Average</li> <li>2.3. Count</li> <li>2.4. Max</li> <li>2.5. Min</li> <li>2.6. If</li> <li>2.7. Sort</li> <li>2.8. Fill</li> <li>2.9. Header</li> <li>2.10. Footer</li> <li>2.11. Print</li> </ul>
3. Browsers	<ul style="list-style-type: none"> <li>3.1. Internet Explorer</li> <li>3.2. Firefox</li> <li>3.3. Google Chrome</li> <li>3.4. Opera</li> <li>3.5. Safari</li> <li>3.6. Omni Web</li> <li>3.7. Microsoft Edge</li> </ul>

Curricula Content Guide	
1. Underpinning knowledge	<ul style="list-style-type: none"> <li>1.1. IT and IT tools</li> <li>1.2. Computer trouble-shooting</li> <li>1.3. Techniques to access internet</li> </ul>
2. Underpinning skills	<ul style="list-style-type: none"> <li>1.1. Demonstrate simple trouble-shooting with computer</li> <li>1.2. Demonstrate typing on word processing software</li> <li>1.3. Demonstrate data entry with spreadsheet</li> <li>1.4. Open email account and use it for different purposes</li> </ul>

<b>Curricula Content Guide</b>	
<b>3. Underpinning attitudes</b>	<ul style="list-style-type: none"> <li><b>2.1.</b> Active on teamwork</li> <li><b>2.2.</b> Prompt in carrying out activities</li> <li><b>2.3.</b> Tidy and punctual</li> <li><b>2.4.</b> Respectful of peers, subordinates and seniors in the workplace</li> <li><b>2.5.</b> Sincere and honest concerning duties</li> </ul>
<b>4. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li><b>4.1.</b> Workplace (simulated or actual)</li> <li><b>4.2.</b> IT tools</li> <li><b>4.3.</b> Computer/Laptop</li> <li><b>4.4.</b> Word processing software</li> <li><b>4.5.</b> Internet connection</li> <li><b>4.6.</b> Stationary</li> <li><b>4.7.</b> Learning manual</li> </ul>

<b>Assessment Evidence Guide</b>	
<b>1. Critical aspects of competency</b>	<p>Assessment must evidence that the candidate:</p> <ul style="list-style-type: none"> <li><b>1.1.</b> identified commonly used IT tools</li> <li><b>1.2.</b> performed simple trouble-shooting with computer</li> <li><b>1.3.</b> performed typing on word processing software, saved and retrieved documents</li> <li><b>1.4.</b> performed data entry with spreadsheet</li> <li><b>1.5.</b> used email account for different online purposes</li> </ul>
<b>2. Methods of assessment</b>	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"> <li><b>2.1.</b> written test</li> <li><b>2.2.</b> oral test</li> <li><b>2.3.</b> observation</li> <li><b>2.4.</b> demonstration</li> <li><b>2.5.</b> portfolio</li> </ul>
<b>3. Context of assessment</b>	<ul style="list-style-type: none"> <li><b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.</li> <li><b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.</li> </ul>



## B: Sector-specific (common) Competencies

<b>Unit of Competency:</b> Understand the RMG business	<b>Nominal Duration:</b> 12 hours	<b>Unit Code:</b> SEIP-RMG-CAD-01-S
<p><b>Unit Descriptor:</b></p> <p>This unit covers the skills, knowledge and attitudes required to understand the RMG business in Bangladesh. It specifically includes identifying basic business communication practices, recognising the history of RMG industry in Bangladesh, identifying major departments of the sector and knowing the prime export markets.</p>		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Identify basic business communication practices	<p>1.1. Communication requirements in RMG Sector are interpreted in accordance with specific job role.</p> <p>1.2. <b><u>Modes of communication</u></b> are identified and described.</p> <p>1.3. Communication policies and guidelines are interpreted and followed.</p>
2. Recognise the history of RMG industry in Bangladesh	<p>2.1. <b><u>History of RMG</u></b> industry in Bangladesh is explored with reference to the past and present status, and expected future trends.</p> <p>2.2. Importance of the RMG industry and its relationship to the Bangladesh labour market is stated with emphasis on manpower and economic impact.</p> <p>2.3. Present and projected future trends and technologies relevant to the sector are identified.</p>
3. Identify major departments of RMG sector	<p>3.1. Scope and nature of <b><u>major departments</u></b> of the RMG sector are identified.</p> <p>3.2. Role and responsibilities of self are identified in relation to the department and organisation as a whole.</p> <p>3.3. <b><u>Machines</u></b> used in different departments are identified.</p>
4. List prime export markets	<p>4.1. Types of <b><u>prime export markets</u></b> are categorised based on their current and future potential.</p> <p>4.2. Export marketing process is clearly identified and described.</p>

## Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Modes of communication	<ul style="list-style-type: none"> <li>1.1. Mail</li> <li>1.2. Email</li> <li>1.3. Social Media</li> <li>1.4. Telephone</li> <li>1.5. Facsimile</li> <li>1.6. Meetings</li> <li>1.7. Video Conference</li> <li>1.8. Courier</li> </ul>
2. History of RMG	<ul style="list-style-type: none"> <li>2.1. History</li> <li>2.2. Economy</li> <li>2.3. SWOT analysis</li> <li>2.4. Gender dynamics</li> <li>2.5. Wages and efficiency</li> <li>2.6. Compliance</li> </ul>
3. Major departments	<ul style="list-style-type: none"> <li>3.1. PDS</li> <li>3.2. Store</li> <li>3.3. Cutting</li> <li>3.4. Embellishment</li> <li>3.5. Sewing</li> <li>3.6. Washing</li> <li>3.7. Finishing</li> <li>3.8. Quality</li> <li>3.9. Industrial Engineering</li> <li>3.10. Production Planning and Control</li> <li>3.11. Maintenance</li> <li>3.12. Merchandising</li> </ul>
4. Machines	<ul style="list-style-type: none"> <li>4.1. Single needle</li> <li>4.2. Double needle</li> <li>4.3. Over lock</li> <li>4.4. Flat lock</li> <li>4.5. Feed of the arm</li> <li>4.6. Kansai Multi-needle</li> <li>4.7. Bar Tuck</li> <li>4.8. Button Hole</li> <li>4.9. Button Stitch</li> <li>4.10. Snap Attach</li> </ul>

Variable	Range ( <i>may include but not limited to</i> )
5. Prime export markets	5.1. United States 5.2. Europe 5.3. Asia 5.4. Newly explored

Curricula Content Guide	
1. Underpinning knowledge	1.1. Policies and Guidelines 1.2. History and trends of RMG sector 1.3. Production process 1.4. Different departments 1.5. Roles and responsibilities 1.6. Prime export markets
2. Underpinning skills	2.1. Apply business communication practices 2.2. Explain production process 2.1. Identify prime export markets
3. Underpinning attitudes	3.1. Eager to learn 3.2. Tidy and punctual 3.3. Concerned with proper use of computer and peripherals 3.4. Concerned for other's rights 3.5. Observes netiquette 3.1 Sincere and honest concerning duties
4. Resource implications	The following resources must be provided: 4.1. Workplace (simulated or actual) 4.2. Computer/laptop/notebook 4.3. Internet 4.4. Projector 4.5. Stationary 4.6. Learning manual

Assessment Evidence Guide	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. identified and described business communication practices 1.2. explained history of RMG in Bangladesh, current status and future trends 1.3. identified prime export markets and their importance to sector

## Assessment Evidence Guide

<b>2. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>2.1.</b> written test <b>2.2.</b> oral test <b>2.3.</b> observation <b>2.4.</b> demonstration <b>2.5.</b> portfolio
<b>3. Context of assessment</b>	<b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.

<b>Unit of Competency:</b> Apply occupational health and safety (OHS) practice in the workplace	<b>Nominal Duration:</b> 8 hours	<b>Unit Code:</b> SEIP-RMG-CAD-02-S
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to apply occupational health and safety (OHS) practices in the workplace. It specifically includes identifying OHS policies and procedures, applying personal health and safety practices, reporting hazards and risks and responding to emergencies.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Identify OHS policies and procedures	1.1. <b><u>OHS policies</u></b> and safe operating procedures are interpreted. 1.2. Safety signs and symbols are identified and followed. 1.3. Response, evacuation procedures and other contingency measures are interpreted correctly.
2. Apply personal health and safety practices	2.1. OHS policies and procedures are applied in the workplace including personal protective equipment (PPE). 2.2. Common health issues are recognised. 2.3. Common safety issues are identified.
3. Report hazards and risks	3.1. Hazards and risks are identified. 3.2. Hazards and risks assessment and controls are interpreted.
4. Respond to emergencies	4.1. Respond to alarms and warning devices. 4.2. <b><u>Emergency response plans and procedures</u></b> are responded to. 4.3. <b><u>First aid procedures</u></b> during emergency situations are identified.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. OHS policies	1.1. Organisational OHS polices 1.2. International OHS requirements 1.3. Fire safety rules and regulations
2. Emergency response plans and procedures	2.1. Firefighting procedures 2.2. Earthquake response procedures 2.3. Emergency response plans and procedures 2.4. Medical and first aid

<b>Variable</b>	<b>Range (may include but not limited to)</b>
3. First aid procedure	3.1. Washing of open wound 3.2. Washing chemically infected area 3.3. Applying bandage 3.4. Taking appropriate medicine
4. Personal protective equipment	4.1. Goggles 4.2. Ear muffs 4.3. Ear plugs 4.4. Gloves 4.5. Clothing 4.6. Apron 4.7. Helmet 4.8. Boots

<b>Curricula Content Guide</b>	
1. Underpinning knowledge	1.1. Workplace OHS policies and procedures 1.2. Work safety procedures 1.3. Emergency response procedures: <ul style="list-style-type: none"> <li>1.3.1. Firefighting</li> <li>1.3.2. Earthquake response</li> <li>1.3.3. Accident response</li> </ul> 1.4. Types of hazards (biological, chemical and physical) and their effects 1.5. OHS awareness 1.6. Personal protective equipment (PPE)
2. Underpinning skills	2.1. Identify OHS policies and procedures 2.2. Apply personal health and safety practices 2.3. Report hazards and risks 2.4. Respond to emergencies
3. Underpinning attitudes	3.1. Committed to occupational health and safety practices 3.2. Communicates well with peers, subordinates and seniors in workplace 3.3. Prompt in carrying out activities 3.4. Tidy and punctual 3.5. Sincere and honest concerning duties 3.6. Responsible during emergencies

## Curricula Content Guide

### 4. Resource implications

The following resources must be provided:

- 4.1. Workplace (simulated or actual)
- 4.2. Personal protective equipment (PPE)
- 4.3. Firefighting equipment
- 4.4. Emergency response manual
- 4.5. First aid kits
- 4.6. Stationary
- 4.7. Learning manual

## Assessment Evidence Guide

### 1. Critical aspects of competency

Assessment must evidence that the candidate:

- 1.1. identified OHS policies and procedures
- 1.2. applied personal health and safety practices (including PPE)
- 1.3. reported hazards and risks
- 1.4. responded to emergencies

### 2. Methods of assessment

Methods of assessment may include but is not limited to:

- 2.1. written test
- 2.2. oral test
- 2.3. observation
- 2.4. demonstration
- 2.5. portfolio

### 3. Context of assessment

- 3.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.
- 3.2. Assessment must be done by a suitably qualified/certified assessor.

<b>Unit of Competency:</b> Perform measurements and calculations	<b>Nominal Duration:</b> 20 hours	<b>Unit Code:</b> SEIP-RMG-CAD-03-S
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to perform measurements and calculations in the workplace. It specifically includes selecting appropriate measuring devices, obtaining measurements for apparel and performing simple calculations.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Selecting measuring devices	1.1. Work instructions are confirmed and applied to the job in hand. 1.2. Materials to be measured are identified as per job specifications. 1.3. Appropriate <b><u>measuring devices</u></b> are selected based on materials to be measured. 1.4. Specifications are obtained from relevant <b><u>documents</u></b> . 1.5. Tolerance and clearance limits are identified and adjusted according to the job requirements.
2. Obtain measurements for apparel	2.1. Accurate <b><u>measurements</u></b> are obtained in accordance with job requirements. 2.2. Systems of measurements are identified and measurement conversions done as per requirement. 2.3. Measurements are confirmed and recorded in the given company format.
3. Perform simple calculations	3.1. Simple calculations involving <b><u>basic operations</u></b> are carried out. 3.2. <b><u>Other operations</u></b> are used to complete tasks. 3.3. Appropriate formulas for calculating quantities of materials are selected and <b><u>calculations</u></b> are performed and verified. 3.4. Material quantities are accurately calculated and shared with team.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Measuring device	1.1. Measuring tape 1.2. Steel rule 1.3. Calculator 1.4. Sets square



<b>Variable</b>	<b>Range (may include but not limited to)</b>
2. Documents	2.1. Technical manuals 2.2. Specifications 2.3. Sketches 2.4. Drawings 2.5. Charts 2.6. Photographs
3. Measurements	3.1. Length 3.2. Width 3.3. Weight 3.4. Tolerance 3.5. Quantity
4. Basic operation	4.1. Addition 4.2. Subtraction 4.3. Multiplication 4.4. Division
5. Other operations	5.1. Fractions 5.2. Percentages 5.3. Mixed numbers 5.4. Conversions 5.5. Scales
6. Calculations	6.1. Area 6.2. Volume 6.3. Quantity 6.4. Circumference 6.5. Determining Cubic Metres (CBM) 6.6. Volumetric Weight

<b>Curricula Content Guide</b>	
1. Underpinning knowledge	1.1. Measuring devices 1.2. Measurement and calculation techniques 1.3. Recording measurements 1.4. Allowance and Tolerance 1.5. Data and Information presentation
2. Underpinning skills	2.1. Identify appropriate measuring devices 2.2. Perform measurements 2.3. Perform calculations

<b>Curricula Content Guide</b>	
<b>3. Underpinning attitudes</b>	<b>3.1.</b> Eager to learn <b>3.2.</b> Tidy and punctual <b>3.3.</b> Concerned about proper use of computer and peripherals <b>3.4.</b> Concerned for other's rights <b>3.5.</b> Observes netiquette <b>3.6.</b> Sincere and honest concerning duties
<b>4. Resource implications</b>	The following resources must be provided: <b>4.1.</b> Workplace (simulated or actual) <b>4.2.</b> Computer/laptop/notebook <b>4.3.</b> Internet <b>4.4.</b> Measuring devices <b>4.5.</b> Materials <b>4.6.</b> Stationary <b>4.7.</b> Learning manual

<b>Assessment Evidence Guide</b>	
<b>1. Critical aspects of competency</b>	Assessment must evidence that the candidate: <b>1.1.</b> identified appropriate measuring devices <b>1.2.</b> carried out measurements <b>1.3.</b> performed simple calculations
<b>2. Methods of assessment</b>	Methods of assessment may include but is not limited to: <b>2.1.</b> written test <b>2.2.</b> oral test <b>2.3.</b> observation <b>2.4.</b> demonstration <b>2.5.</b> portfolio
<b>3. Context of assessment</b>	<b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. <b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.

<b>Unit of Competency:</b> Read and interpret sketches and drawings	<b>Nominal Duration:</b> 20 hours	<b>Unit Code:</b> SEIP-RMG-CAD-04-S
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to read and interpret sketches and drawings. It specifically includes interpreting information and specifications, and reading and interpreting sketches and drawings.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Interpret information and specifications	1.1. Appropriate <b><u>manuals</u></b> for work activity are identified and collected. 1.2. Information and <b><u>specifications</u></b> in the manuals is interpreted and applied.
2. Read and interpret sketches and drawings	2.1. Relevant <b><u>sketches and drawings</u></b> are identified for job requirement. 2.2. Key <b><u>terms and abbreviations</u></b> are identified and interpreted. 2.3. <b><u>Signs and symbols</u></b> are identified and interpreted. 2.4. Schedules, dimensions, sketches, drawings and specifications are correctly read and interpreted.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Manuals	1.1. Buyers specification 1.2. Compliance 1.3. Maintenance procedure 1.4. Periodic maintenance 1.5. Quality assurance 1.6. Standard operating procedure (SOP)
2. Sketches and drawings	2.1. Technical 2.2. Measurement 2.3. Design
3. Specifications	3.1. Product 3.2. Performance 3.3. Method
4. Terms and abbreviations	4.1. Refers to all terms and abbreviations associated with the RMG Sector
5. Signs and symbols	5.1. Include all signs and symbols associated with the RMG Sector

<b>Curricula Content Guide</b>	
1. Underpinning knowledge	1.1. Manuals 1.2. Units of measurement 1.3. Units of conversion 1.4. Sketch, drawings and specifications
2. Underpinning skills	2.1. Read and identify information and specifications (from manual) 2.2. Read and interpret sketches and drawings
3. Underpinning attitudes	3.1. Eager to learn 3.2. Tidy and punctual 3.3. Concerned about proper use of computer and peripherals 3.4. Concerned for other's rights 3.5. Sincere and honest concerning duties
4. Resource implications	The following resources must be provided: 4.1. Workplace (simulated or actual) 4.2. Computer/laptop/notebook 4.3. Software 4.4. Stationary 4.5. Learning manual

<b>Assessment Evidence Guide</b>	
1. Critical aspects of competency	Assessment must evidence that the candidate: 1.1. identified information and specifications 1.2. read and interpreted sketches and drawings
2. Methods of assessment	Methods of assessment may include but is not limited to: 2.1. written test 2.2. oral test 2.3. observation 2.4. demonstration 2.5. portfolio
3. Context of assessment	3.1. Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency. 3.2. Assessment must be done by a suitably qualified/certified assessor.

## C: Occupation-specific (core) Competencies

<b>Unit of Competency:</b> Interpret fundamentals of CAD operations	<b>Nominal Duration:</b> 30 hours	<b>Unit Code:</b> SEIP-RMG-CAD-01-O
<p><b>Unit Descriptor:</b></p> <p>This unit covers the skills, knowledge and attitudes required to interpret the fundamentals of CAD operations. It specifically includes understanding the requirements of CAD, interpreting job responsibility, identifying parts, points and measuring guides of garments, and interpreting manual pattern and marker making.</p>		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Understand requirements of CAD	1.1. <b><u>CAD system</u></b> is interpreted as per RMG industry. 1.2. <b><u>Functions</u></b> of CAD systems are identified and described. 1.3. <b><u>Working sequence</u></b> of CAD section in RMG industry is understood. 1.4. Basic CAD <b><u>software</u></b> is identified.
2. Interpret job responsibility of CAD operators	2.1. <b><u>Job role</u></b> of a CAD operator is defined. 2.2. Prime job responsibilities are listed as per RMG industry.
3. Identify parts, points and measuring guides of garments	3.1. Parts of human body are identified and concisely described. 3.2. Horizontal and vertical measurement processes are identified. 3.3. Specification for garment guides are identified as per job requirements. 3.4. Basic <b><u>points of measurement</u></b> are identified as per measurement chart.
4. Interpret manual pattern and marker making	4.1. Manual pattern making methods are identified. 4.2. Manual pattern is interpreted as per measurement sheet. 4.3. Pattern grading is interpreted and understood. 4.4. Manual marker making is interpreted.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. CAD system	1.1. History of CAD 1.2. Importance of CAD 1.3. Apparel design systems 1.4. Fabric Print design/placement 1.5. Texture mapping: 3D draping software

Variable	Range ( <i>may include but not limited to</i> )
2. Functions	2.1. Pattern making 2.2. Digitizing 2.3. Grading 2.4. Marker making 2.5. Specification 2.6. Consumption
3. Working sequence	3.1. CAD for manual pattern to digitalization 3.2. CAD for auto pattern and marker generation
4. Software	4.1. LECTRA ( Modaris & Diamino) 4.2. Garber garment technology 4.3. Investronica 4.4. TUKACAD (Tukatech) 4.5. Optitex PDS 4.6. GT resources 4.7. Winda 4.8. Euro CAD 4.9. Rich piece
5. Job role	5.1. Operating garment CAD 5.2. Digitizing patterns on digitizer 5.3. Generating auto patterns 5.4. Grading patterns 5.5. Creating marker 5.6. Checking consumption 5.7. Printing marker
6. Points of measurement	<u>Top measurement:</u> 6.1. Body length 6.2. Chest 6.3. Bottom and waist 6.4. Sleeve length and opening 6.5. Bicep and shoulder 6.6. Armhole 6.7. Neck width <u>Bottom measurement:</u> 6.8. Waist 6.9. Hip 6.10. Calf and thigh 6.11. Knee 6.12. Leg opening 6.13. Front and back rise 6.14. Length

<b>Curricula Content Guide</b>	
<b>1. Underpinning knowledge</b>	<ul style="list-style-type: none"> <li>1.1 CAD system and functions</li> <li>1.2 Basic CAD software</li> <li>1.3 Roles and responsibilities of CAD operator</li> <li>1.4 Basic points of measurement</li> <li>1.5 Manual marking methods</li> </ul>
<b>2. Underpinning skills</b>	<ul style="list-style-type: none"> <li>2.1. List of job roles of CAD operator</li> <li>2.2. Interpret points of measures</li> <li>2.3. Perform marker making</li> <li>2.4. Perform manual pattern and marker making</li> </ul>
<b>3. Underpinning attitudes</b>	<ul style="list-style-type: none"> <li>3.1. Prompt in carrying out activities</li> <li>3.2. Tidy and punctual</li> <li>3.3. Concerned about proper use of computer and peripherals</li> <li>3.4. Sincere and honest concerning duties</li> <li>3.5. Concerned about the work environment</li> <li>3.6. Active on teamwork</li> </ul>
<b>4. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>4.1. Workplace (simulated or actual)</li> <li>4.2. Computer/laptop/notebook</li> <li>4.3. Peripherals</li> <li>4.4. Software</li> <li>4.5. Projector</li> <li>4.6. Stationary</li> <li>4.7. Learning manual</li> </ul>

<b>Assessment Evidence Guide</b>	
<b>1. Critical aspects of competency</b>	<p>Assessment must evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1. listed job roles and responsibilities of CAD operator</li> <li>1.2. identified and interpreted points of measurements</li> <li>1.3. performed marker making</li> <li>1.4. carried out manual pattern and marker making</li> </ul>
<b>2. Methods of assessment</b>	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"> <li>2.1. written test</li> <li>2.2. oral test</li> <li>2.3. observation</li> <li>2.4. demonstration</li> <li>2.5. portfolio</li> </ul>

### Assessment Evidence Guide

#### 3. Context of assessment

**3.1.** Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.

**3.2.** Assessment must be done by a suitably qualified/certified assessor.



<b>Unit of Competency:</b> Perform CAD installation and operation	<b>Nominal Duration:</b> 10 hours	<b>Unit Code:</b> SEIP-RMG-CAD-02-O
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to perform CAD installation and operation. It specifically includes identifying hardware and software required for CAD operations, and installing CAD software.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Identify hardware and software required for CAD	1.1. Fundamentals of appropriate computer applications are identified and applied. 1.2. Configuration of computer is identified and interpreted. 1.3. <b><u>CAD hardware</u></b> is identified. 1.4. CAD software is identified.
2. Install CAD software	2.1. Installation process in CAD software is identified and described. 2.2. CAD software is correctly installed.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. CAD hardware	1.1. System unit 1.2. Central processing unit (CPU) 1.3. Hard disk 1.4. CD-ROM 1.5. External storage device 1.6. Monitor 1.7. Printers and plotters 1.8. Digitizer board

Curricula Content Guide	
1. Underpinning knowledge	1.1. CAD hardware 1.2. CAD software 1.3. Installation process
2. Underpinning skills	2.1. Use computer applications 2.2. Identify CAD hardware 2.3. Install CAD software

<b>Curricula Content Guide</b>	
<b>3. Underpinning attitudes</b>	<ul style="list-style-type: none"> <li><b>3.1.</b> Prompt in carrying out activities</li> <li><b>3.2.</b> Tidy and punctual</li> <li><b>3.3.</b> Concerned about proper use of computer and peripherals</li> <li><b>3.4.</b> Sincere and honest concerning duties</li> <li><b>3.5.</b> Concerned about the work environment</li> <li><b>3.6.</b> Active on teamwork</li> </ul>
<b>4. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li><b>4.1.</b> Workplace (simulated or actual)</li> <li><b>4.2.</b> Computer/laptop/notebook</li> <li><b>4.3.</b> CAD hardware</li> <li><b>4.4.</b> CAD software</li> <li><b>4.5.</b> Instruction sheet/manual</li> <li><b>4.6.</b> Stationary</li> <li><b>4.7.</b> Learning manual</li> </ul>

<b>Assessment Evidence Guide</b>	
<b>1. Critical aspects of competency</b>	<p>Assessment must evidence that the candidate:</p> <ul style="list-style-type: none"> <li><b>1.1.</b> used computer applications</li> <li><b>1.2.</b> identified CAD hardware and software</li> <li><b>1.3.</b> performed installation process of CAD software</li> </ul>
<b>2. Methods of assessment</b>	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"> <li><b>2.1.</b> written test</li> <li><b>2.2.</b> oral test</li> <li><b>2.3.</b> observation</li> <li><b>2.4.</b> demonstration</li> <li><b>2.5.</b> portfolio</li> </ul>
<b>3. Context of assessment</b>	<ul style="list-style-type: none"> <li><b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.</li> <li><b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.</li> </ul>

<b>Unit of Competency:</b> Operate system of pattern making	<b>Nominal Duration:</b> 100 hours	<b>Unit Code:</b> SEIP-RMG-CAD-03-O
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to operate system of pattern making. It specifically includes identifying functions to operate system and performing pattern making with software.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Identify functions to operate system	1.1. Pattern design system (PDS) is identified and selection as per job requirement. 1.2. Technical terms and <b><u>functions</u></b> of PDS are identified and interpreted. 1.3. Size table and styles are recognised and followed. 1.4. <b><u>User interface</u></b> is identified and interpreted.
2. Perform pattern making with software	2.1. Parts of garment are created by functions as per styling requirements. 2.2. Size table is fashioned. 2.3. Sewing allowance and shrinkage is calculated. 2.4. Variant and exporting process is performed. 2.5. Pattern making systems are converted to other software.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Functions	1.1. Point and line functions 1.2. Tools, orientation and notches 1.3. Modification 1.4. Industrialisation and piece 1.5. Derived piece folds and cams 1.6. Grading 1.7. Evaluation system and nest modification 1.8. Measure, assembly and variant

Variable	Range ( <i>may include but not limited to</i> )
2. User interface	2.1. File 2.2. Edit 2.3. Sheet 2.4. Display 2.5. Size 2.6. Layer 2.7. Parameters 2.8. Configuration 2.9. Tools 2.10. Print 2.11. Curve pints 2.12. Flat pattern 2.13. Cut piece

Curricula Content Guide	
1. Underpinning knowledge	1.1. Functions of PDS 1.2. Size table, style and layer 1.3. User interface 1.4. Variant and exporting process
2. Underpinning skills	2.1. Fashion size table 2.2. Create parts of garment functioning 2.3. Perform variant and exporting process 2.4. Convert pattern making systems to other software
3. Underpinning attitudes	3.1. Prompt in carrying out activities 3.2. Tidy and punctual 3.3. Concerned about proper use of computer and peripherals 3.4. Sincere and honest concerning duties 3.5. Concerned about the work environment 3.6. Active on teamwork
4. Resource implications	The following resources must be provided: 4.1. Workplace (simulated or actual) 4.2. Computer/laptop/notebook 4.3. Software (Lectra Modaris) 4.4. Working table 4.5. Materials 4.6. Stationary 4.7. Learning manual

<b>Assessment Evidence Guide</b>	
<b>1. Critical aspects of competency</b>	<p>Assessment must evidence that the candidate:</p> <ul style="list-style-type: none"> <li><b>1.1.</b> fashioned size table</li> <li><b>1.2.</b> created parts of garment functioning</li> <li><b>1.3.</b> performed variant and exporting process</li> <li><b>1.4.</b> converted pattern making system to other software</li> </ul>
<b>2. Methods of assessment</b>	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"> <li><b>2.1.</b> written test</li> <li><b>2.2.</b> oral test</li> <li><b>2.3.</b> observation</li> <li><b>2.4.</b> demonstration</li> <li><b>2.5.</b> portfolio</li> </ul>
<b>3. Context of assessment</b>	<ul style="list-style-type: none"> <li><b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.</li> <li><b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.</li> </ul>

<b>Unit of Competency:</b> Perform digitizing patterns	<b>Nominal Duration:</b> 30 hours	<b>Unit Code:</b> SEIP-RMG-CAD-04-O
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**Unit Descriptor:**

This unit covers the skills, knowledge and attitudes required to perform digitizing of patterns. It specifically includes preparing for digitizing and operating digitizer.

**Elements and Performance Criteria**

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Prepare for digitizing	1.1. Pattern parts and components are identified. 1.2. Approved pattern parts are collected. 1.3. <b><u>Digitizer tools</u></b> are checked and organised for use.
2. Operate digitizer	2.1. Pattern is placed on the digitizer. 2.2. Points and notches of pattern are checked 2.3. Points of pattern are marked using cursor. 2.4. Digitized patterns are saved and stored.

**Range of Variables**

Variable	Range ( <i>may include but not limited to</i> )
1. Digitizer tools	1.1. Cursor 1.2. Laser 1.3. Table/board 1.4. Functions keys and menu bar

Curricula Content Guide	
1. Underpinning knowledge	1.1. Pattern parts and components 1.2. CAD software functioning 1.3. Digitizer tools 1.4. Points of the pattern
2. Underpinning skills	2.1. Interpret parts and components 2.2. Organise tools 2.3. Mark points 2.4. Perform digitizing 2.5. Check pattern points and notches

<b>Curricula Content Guide</b>	
<b>3. Underpinning attitudes</b>	<ul style="list-style-type: none"> <li><b>3.1.</b> Patience and attentiveness</li> <li><b>3.2.</b> Prompt in carrying out activities</li> <li><b>3.3.</b> Tidy and punctual</li> <li><b>3.4.</b> Concerned about proper use of computer and peripherals</li> <li><b>3.5.</b> Sincere and honest concerning duties</li> <li><b>3.6.</b> Concerned about the work environment</li> <li><b>3.7.</b> Active on teamwork</li> </ul>
<b>4. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li><b>4.1.</b> Workplace (simulated or actual)</li> <li><b>4.2.</b> Computer/laptop/notebook</li> <li><b>4.3.</b> CAD software</li> <li><b>4.4.</b> Pattern board</li> <li><b>4.5.</b> Materials</li> <li><b>4.6.</b> Stationary</li> <li><b>4.7.</b> Learning manual</li> </ul>

<b>Assessment Evidence Guide</b>	
<b>1. Critical aspects of competency</b>	<p>Assessment must evidence that the candidate:</p> <ul style="list-style-type: none"> <li><b>1.1.</b> identified pattern parts and components</li> <li><b>1.2.</b> organised digitizer tools</li> <li><b>1.3.</b> marked points of the pattern using cursor</li> <li><b>1.4.</b> performed digitizing of patterns</li> <li><b>1.5.</b> checked pattern points and notches</li> </ul>
<b>2. Methods of assessment</b>	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"> <li><b>2.1.</b> written test</li> <li><b>2.2.</b> oral test</li> <li><b>2.3.</b> observation</li> <li><b>2.4.</b> demonstration</li> <li><b>2.5.</b> portfolio</li> </ul>
<b>3. Context of assessment</b>	<ul style="list-style-type: none"> <li><b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.</li> <li><b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.</li> </ul>

<b>Unit of Competency:</b> Perform pattern grading	<b>Nominal Duration:</b> 30 hours	<b>Unit Code:</b> SEIP-RMG-CAD-05-O
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to perform pattern grading. It specifically includes interpreting the size and measurement differences of patterns, applying rule table for grading, and preparing and saving graded patterns.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Interpret size and measurement differences	1.1. Different sizes are interpreted as per the buyer's requirements. 1.2. Measurement differences between the sizes are calculated and confirmed.
2. Apply rule table for grading	2.1. Appropriate rule table is employed. 2.2. <b><u>Grading</u></b> is undertaken and pattern adjusted for variances. 2.3. Graded pattern is checked.
3. Prepare and save graded patterns	3.1. Graded patterns are collected for marker making. 3.2. Graded patterns are prepared. 3.3. Prepared patterns are saved and stored.

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Grading	1.1. Basic size selection 1.2. Addition of size 1.3. Deletion of size 1.4. Measurement differences 1.5. Use of axis

Curricula Content Guide	
1. Underpinning knowledge	1.1. Different sizes and measurements 1.2. Rule table 1.3. Graded pattern process
2. Underpinning skills	2.1. Calculate sizes and measurements 2.2. Apply appropriate rule table 2.3. Apply grading and adjust for variances 2.4. Check graded pattern 2.5. Prepare graded patterns 2.6. Save approved patterns for marker making



### Curricula Content Guide

<p><b>3. Underpinning attitudes</b></p>	<p><b>3.1.</b> Patience and attentiveness  <b>3.2.</b> Prompt in carrying out activities  <b>3.3.</b> Tidy and punctual  <b>3.4.</b> Concerned about proper use of computer and peripherals  <b>3.5.</b> Sincere and honest concerning duties  <b>3.6.</b> Concerned about the work environment  <b>3.7.</b> Active on teamwork</p>
<p><b>4. Resource implications</b></p>	<p>The following resources must be provided:</p> <p><b>4.1.</b> Workplace (simulated or actual)  <b>4.2.</b> Computer/laptop/notebook  <b>4.3.</b> Software  <b>4.4.</b> Measurement chart  <b>4.5.</b> Instruction sheet  <b>4.6.</b> Stationary  <b>4.7.</b> Learning manual</p>

### Assessment Evidence Guide

<p><b>1. Critical aspects of competency</b></p>	<p>Assessment must evidence that the candidate:</p> <p><b>1.1.</b> calculated measurements and sizes  <b>1.2.</b> used appropriate rule table  <b>1.3.</b> applied grading and adjusted for variances  <b>1.4.</b> checked and prepared graded patterns  <b>1.5.</b> saved and stored approved patterns for marker making</p>
<p><b>2. Methods of assessment</b></p>	<p>Methods of assessment may include but is not limited to:</p> <p><b>2.1.</b> written test  <b>2.2.</b> oral test  <b>2.3.</b> observation  <b>2.4.</b> demonstration  <b>2.5.</b> portfolio</p>
<p><b>3. Context of assessment</b></p>	<p><b>3.1.</b> Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.  <b>3.2.</b> Assessment must be done by a suitably qualified/certified assessor.</p>

<b>Unit of Competency:</b> Create marker and print	<b>Nominal Duration:</b> 60 hours	<b>Unit Code:</b> SEIP-RMG-CAD-06-O
<b>Unit Descriptor:</b> This unit covers the skills, knowledge and attitudes required to create marker and print. It specifically includes making marker, and printing pattern and marker.		

### Elements and Performance Criteria

Terms in the performance criteria that are written in **bold and underlined** are elaborated in the range of variables.

Elements of Competency	Performance Criteria
1. Make marker	<p>1.1. Marker making software is identified and selected.</p> <p>1.2. <b><u>Marker generalities and composition</u></b> table are filled with necessary information.</p> <p>1.3. <b><u>Marker making</u></b> is performed.</p>
2. Print pattern and marker	<p>2.1. Printer is connected to CAD system.</p> <p>2.2. Paper width in printer is checked and ensured ready for use.</p> <p>2.3. Sequence of print software is followed and <b><u>print command</u></b> is applied.</p> <p>2.4. Pattern and marker is printed.</p>

### Range of Variables

Variable	Range ( <i>may include but not limited to</i> )
1. Marker generalities and composition	<p>1.1. Name</p> <p>1.2. Comments</p> <p>1.3. Size</p> <p>1.4. Quantity</p> <p>1.5. Width</p> <p>1.6. Length</p> <p>1.7. Salvage value</p> <p>1.8. Efficiency</p> <p>1.9. Global spacing</p> <p>1.10. Fabric edges</p> <p>1.11. Moving tolerance</p> <p>1.12. Fine rotation</p> <p>1.13. Model name</p> <p>1.14. Variant name</p> <p>1.15. Save</p>
2. Marker making	<p>2.1. Pop and drag</p> <p>2.2. Auto nesting</p>
3. Print command	<p>3.1. Vigi</p> <p>3.2. Just</p>

<b>Curricula Content Guide</b>	
<b>1. Underpinning knowledge</b>	<ul style="list-style-type: none"> <li>1.1. Marker making software</li> <li>1.2. Order ratio</li> <li>1.3. ICT (printer)</li> <li>1.4. CAD system</li> </ul>
<b>2. Underpinning skills</b>	<ul style="list-style-type: none"> <li>2.1. Perform marker making</li> <li>2.2. Connect printer to CAD system</li> <li>2.3. Check paper width in printer</li> <li>2.4. Follow printing sequence</li> </ul>
<b>3. Underpinning attitudes</b>	<ul style="list-style-type: none"> <li>3.1. Patience and attentiveness</li> <li>3.2. Prompt in carrying out activities</li> <li>3.3. Tidy and punctual</li> <li>3.4. Concerned about proper use of computer and peripherals</li> <li>3.5. Sincere and honest concerning duties</li> <li>3.6. Concerned about the work environment</li> <li>3.7. Active on teamwork</li> </ul>
<b>4. Resource implications</b>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>4.1. Workplace (simulated or actual)</li> <li>4.2. Computer/laptop/notebook</li> <li>4.3. Software</li> <li>4.4. Calculator</li> <li>4.5. Plotter</li> <li>4.6. Printer</li> <li>4.7. Instruction sheet</li> <li>4.8. Stationary</li> <li>4.9. Learning manual</li> </ul>

<b>Assessment Evidence Guide</b>	
<b>1. Critical aspects of competency</b>	<p>Assessment must evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1. performed marker making</li> <li>1.2. checked paper width in printer</li> <li>1.3. followed printing sequence</li> </ul>
<b>2. Methods of assessment</b>	<p>Methods of assessment may include but is not limited to:</p> <ul style="list-style-type: none"> <li>2.1. written test</li> <li>2.2. oral test</li> <li>2.3. observation</li> <li>2.4. demonstration</li> <li>2.5. portfolio</li> </ul>

### Assessment Evidence Guide

#### 3. Context of assessment

**3.1.** Competency assessment must be done in a training institute or an actual or simulated workplace after completion of this unit of competency.

**3.2.** Assessment must be done by a suitably qualified/certified assessor.