

CARRY OUT MICROSCOPY

UNIT CODE: APB/OS/AB/CC/03/6/A

UNIT DESCRIPTION

This unit specifies the competencies required to carry out microscopy. It involves applying types of microscopy, determining parts of a microscope, carrying out micrometry and carrying out care and maintenance of microscopes

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
<p>These describe the key outcomes which make up workplace function.</p>	<p>These are assessable statements which specify the required level of performance for each of the elements.</p> <p><i>Bold and italicized terms are elaborated in the Range</i></p>
<p>1. Apply types of microscopy</p>	<p>1.1 Bright field microscopy is identified and demonstrated as per science laboratory procedure</p> <p>1.2 Dark field microscopy is demonstrated as per science laboratory procedures</p> <p>1.3 Fluorescent microscopy is demonstrated as per science laboratory procedures</p> <p>1.4 Electron microscopy is demonstrated as per science laboratory procedures</p> <p>1.5 Digital microscope is identified and demonstrated as per science laboratory procedures</p>
<p>2. Determine parts of a microscope</p>	<p>2.1 <i>Ocular parts</i> are identified and demonstrated as per science laboratory procedures</p> <p>2.2 <i>Mechanical parts</i> are identified and demonstrated as per science laboratory procedures</p> <p>2.3 Handling of a microscope is carried out as per science laboratory procedures</p>
<p>3. Carry out micrometry</p>	<p>3.1 Specimen preparation is carried out as per science laboratory procedures</p> <p>3.2 Microscopic observation of the specimen is carried out as per science laboratory procedures</p> <p>3.3 <i>Micrometry</i> of the prepared specimen is carried out as per science laboratory procedures</p>

4. Carry out care and maintenance of microscopes	4.1 Microscopes are dusted and cleaned as per science laboratory requirements 4.2 Microscopes are lubricated as per science laboratory requirements 4.3 Microscopes are stored according to science laboratory requirements 4.4 Microscopes are regularly calibrated based on science laboratory standards.
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RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variables	Range
Ocular parts include but not limited to:	<ul style="list-style-type: none"> • Eye piece lenses • Objective lenses
Mechanical parts include but not limited to:	<ul style="list-style-type: none"> • Stage • Mechanical adjustment knobs • Coarse adjustment knobs • Fine adjustment knobs
Micrometry include but not limited to:	<ul style="list-style-type: none"> • Use of a graticule • Use of micrometer stage • Use of a ruler

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Organizing skills
- Interpersonal skills
- Communication skills
- Problem solving
- Critical thinking

Required Knowledge

The individual needs to demonstrate knowledge of:

- Care and maintenance of microscopes
- Parts of a microscope
- Micrometry
- Types of microscopes

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Identified the types of microscopes 1.2 Demonstrated the parts of a microscope 1.3 Carried out micrometry 1.4 Dusted and cleaned a microscope 1.5 Lubricated microscopes 1.6 Covered and stored microscopes 1.7 Regularly calibrated microscopes
2. Resource Implications	The following resources should be provided: 2.1 Well-equipped functional laboratory facility 2.2 Standard laboratory procedures manual 2.3 Micrometry apparatus 2.4 PPEs
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Oral 3.2 Written 3.3 Observation 3.4 Third party
4. Context of Assessment	Competency may be assessed on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.