

Aim:

To provide the candidate with the means to achieve the learning outcomes below:

Learning Outcomes:

At the end of this module, the student will be able to demonstrate knowledge of:

1. The legal metrology infrastructure including national, EU and International frameworks for its provision (including appropriate legislation).
2. Measurement principles relating to mass, length, volume, flow and density
3. Care, maintenance, calibration and use of Inspector's equipment
4. Principle of operation of weighing and measuring equipment in trade use

The following terms have been used to indicate the level of knowledge required in each element;

Detailed: To an in-depth level, and with a fine degree of distinction between concepts;

Working: With the ability to apply the learning to situations so as to resolve problems;

Basic: Having an awareness of the organisations and concepts.

Assessments will reflect the requisite level of knowledge in each given area of the syllabus.

| SYLLABUS | EVIDENCE REFERENCE | ASSESSOR COMMENT/AGREEMENT | MODERATOR COMMENT/AGREEMENT |
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| Weights and Measures Technology Detailed Knowledge | | | |
| <ul style="list-style-type: none"> Fundamental principles of measurement relating to mass, length, volume, flow and density | | | |
| Units and Standards Working Knowledge | | | |
| <ul style="list-style-type: none"> The principles of S.I units, national and international standards | | | |
| <ul style="list-style-type: none"> The processes of calibration and traceability of standards | | | |
| <ul style="list-style-type: none"> The construction, maintenance, handling and testing of standards used in legal metrology as outlined in National Measurement Office (NMO) specifications and relevant legislation | | | |
| <ul style="list-style-type: none"> the concepts of accuracy and uncertainty in measurement and the ability to perform uncertainty calculations and the process of preparing an uncertainty budget | | | |
| Weighing and Measuring Equipment Working Knowledge | | | |
| <ul style="list-style-type: none"> Principles of operation, metrological requirements and conformity assessment of non-automatic weighing instruments as outlined in BS EN 45501 and the implications of OIML (International Organisation of Legal Metrology) recommendations | | | |
| <ul style="list-style-type: none"> OIML (International Organisation of Legal Metrology) recommendations in reference to testing procedures and metrological requirements of prescribed weights and measures equipment in the UK | | | |
| <ul style="list-style-type: none"> principles of operation, metrological requirements and conformity assessment of a range of automatic weighing instruments encountered in legal metrology | | | |
| <ul style="list-style-type: none"> principles of operation, metrological requirements and conformity assessment of a range of measuring equipment: (including material measures, fuel dispensers, road tankers, spirit measuring instruments, beer measuring instruments and water meters) | | | |
| <ul style="list-style-type: none"> principles of operation and metrological requirements of instruments used for packaged goods (including automatic gravimetric filling instruments, catchweighing instruments and measuring container bottles with template) | | | |

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| <ul style="list-style-type: none"> • The average quantity system and associated calculations | | | |
| <ul style="list-style-type: none"> • Influence factors that can affect standards and weighing and measuring equipment (including temperature, vibration, humidity, air buoyancy and electromagnetic influence); techniques and corrections that can be applied to reduce their effects | | | |
| Basic Knowledge | | | |
| <ul style="list-style-type: none"> • The principle and form of type approval documents | | | |
| <ul style="list-style-type: none"> • The principle and form of conformity assessment certificates | | | |
| Weights and Measures Law Detailed Knowledge - general matters | | | |
| <ul style="list-style-type: none"> • The Weights and Measures Act 1985, including the arrangements of sections and schedules and relevant delegated legislation. | | | |
| <ul style="list-style-type: none"> • Local administration | | | |
| <ul style="list-style-type: none"> • Powers and general enforcement and the impact of the Consumer Rights Act 2015 | | | |
| <ul style="list-style-type: none"> • Units and standards of measurement | | | |
| <ul style="list-style-type: none"> • Regulation of weighing and measuring equipment and instruments, including public equipment | | | |
| <ul style="list-style-type: none"> • Regulation of transactions in goods, the minimum and average quantity systems and the impact of EU Regulation 1169/2011 on same | | | |
| <ul style="list-style-type: none"> • Offences and defences | | | |
| <ul style="list-style-type: none"> • Specific powers | | | |
| <ul style="list-style-type: none"> • Responsibilities and duties | | | |
| <ul style="list-style-type: none"> • Case law that assists in the interpretation of key aspects of the legislation | | | |
| <ul style="list-style-type: none"> • The responsibilities placed on packers and importers under the average quantity system, including quantity, markings, equipment, checks and records, offences and defences and administrative procedures. | | | |

| Working Knowledge of the following general matters | | | |
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| <ul style="list-style-type: none"> The structures and roles of organisations that impact on legal metrology provision, including the Department for Business Innovation and Skills (BIS), National Measurement Office (NMO), WELMEC (European Corporation in Legal Metrology) and OIML (International Organisation of Legal Metrology). How and why these bodies were established and their interaction with each other. | | | |
| <ul style="list-style-type: none"> The impact of the EU institutions on legal metrology, including the New Approach and Global Approach and the New Legislative Framework. | | | |
| <ul style="list-style-type: none"> The legislative regimes, whether UK or EU based, that control weighing and measuring equipment or instruments (i.e. "UK crown stamped", "EEC stamped", "NAWI stickered" or "MID stickered"), associated offences and defences and administrative provisions. | | | |
| <ul style="list-style-type: none"> The law relating to self-verification, accreditation and assessment methods, batch testing and notified bodies in relation to legal metrology | | | |
| <ul style="list-style-type: none"> The implementation of the Non-Automatic Weighing Instruments and Measuring Instruments Directives into UK Law, including the provisions of the Directives, the implementing legislation and the controls on placing instruments on the market and putting them into use and in-service provisions. | | | |
| <ul style="list-style-type: none"> Conformity assessment under UK and EU Legal provisions | | | |
| <ul style="list-style-type: none"> The legislative controls and practical implications of the minimum and average quantity systems. | | | |
| <ul style="list-style-type: none"> The legal requirements and controls placed on transactions in goods, including sales by quantity, the legal status of goods, minimum quantity provisions, offences and defences and administrative procedures. | | | |
| <ul style="list-style-type: none"> The impact of the Consumer Protection from Unfair Trading Regulations 2008 on legal metrology, in particular with regard to misleading actions, omissions and professional diligence issues that impact on the use of weighing and measuring equipment / instruments the regulation of transactions in goods and quantity systems. | | | |

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| <ul style="list-style-type: none"> The impact of the Business Protection from Misleading Marketing Regulations 2008 on legal metrology, in particular with regard to misleading advertising that impacts on the use of weighing and measuring equipment / instruments, the regulation of transactions in goods and quantity systems. | | | |
| <ul style="list-style-type: none"> Current pricing legislation that impinges on legal metrology. | | | |
| <ul style="list-style-type: none"> The way in which weights and measures legislation is applied to everyday situations, (enabling candidates to show the knowledge and professional ability necessary to effectively tackle situations, take initiative, prepare communications and propose solutions to problems and circumstances common to the workload of a Weights and Measures Inspector). | | | |

Evidence Reference: Give all your evidence a reference number and allocate the correct reference, which demonstrate the particular aspect of the syllabus. Please use the following for the reflective statement.

RS = Reflective Statement