



Australian Government

Assessment Requirements for MSFPT4006 Apply piano tuning theory and basic acoustics

Release: 1

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Modification History

Release 1. Changes to code, application, elements, performance criteria, assessment requirements. Foundation skills added. Range of conditions removed. Assessment requirements changed.

Performance Evidence

There must be evidence the candidate has completed all the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- analyse existing acoustics, tuning and scales and apply basic acoustics, piano tuning theory and musical scale theory to tuning on at least two upright pianos.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the physics and features of basic acoustics, including:
 - sound waves
 - beats
 - frequencies
 - harmonics
 - cycles
 - partials
 - overtones
 - nodes
 - fundamentals
 - sine waves
 - intonation
 - transients
 - cents
 - commas
 - compound tones
 - inharmonicity
- the physics and features of piano tuning theory, including:
 - how wire vibrates
 - what happens when two or more wires vibrate simultaneously
 - how vibrations are organised into a tuning scale
 - how vibrations are related mathematically

- pitch, beat rates, intervals and octave stretching
- musical scale theory, including:
 - diatonic scale
 - equal temperament
 - mean-tone
- laws of strings including Mersenne's laws, including:
 - First law
 - Third law
 - Combined law
 - Taylor's Formula
 - need for wrapped strings
- problem identification for acoustics and tuning, and resolution.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources required for performance evidence, including:
 - upright or grand pianos
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>