

22305VIC Certificate III in Musical Instrument Making and Maintenance

22306VIC Certificate IV in Musical Instrument Making and Repair

Version 1



For office use only

Accredited by	Victorian Registration and Qualifications Authority
From	1 January 2016
To	31 December 2020
Course Code	22305VIC 22306VIC

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Section A: Copyright and course classification information

Section A: Copyright and course classification information

1. Copyright owner of the course	Copyright of this material is held by the Department of Education and Training, Victoria. © State of Victoria (Department of Education and Training) 2015.
2. Address	Department of Education and Training Executive Director Training Participation and Facilitation Division GPO Box 4367 MELBOURNE VIC 3001 Day-to-day contact: Curriculum Maintenance Manager - Building and Construction Holmesglen Institute PO Box 42 HOLMESGLEN VIC 3148 Email: teresa.signorello@holmesglen.edu.au (T): 03 9564 1987 (F): 03 9564 1538
3. Type of submission	This course is submitted for accreditation and does not replace any other accredited course or endorsed qualification.
4. Copyright acknowledgement	Copyright of this material is reserved to the Crown in the right of the State of Victoria. © State of Victoria (Department of Education and Training) 2015. The following units of competency have been reproduced with the permission of the Commonwealth of Australia, the copyright owner: © Commonwealth of Australia BSB Business Services Training Package BSBCMM402 Implement effective communication strategies BSBMGT403 Implement continuous improvement BSBRSK401 Identify risk and apply risk management processes BSBSMB402 Plan small business finances BSBSMB404 Undertake small business planning CUL11 Library, Information and Cultural Services Training Package CULMS010B Contribute to the preservation of cultural material CUV11 Visual Arts, Crafts and Design Training Package CUVACD101A Use basic drawing techniques CUVACD303A Produce technical drawings CUVCAL301A Produce calligraphy CUVICS04B Originate and develop a concept CUVPHI302A Capture photographic images CUVPRP405A Develop and discuss ideas for own creative work

MEM05 Metal and Engineering Training Package

MEM05003B Perform soft soldering

MSA07 Manufacturing Training Package

MSAENV272B Participate in environmentally sustainable work practices

MSAENV472B Implement and monitor environmentally sustainable work practices

MSAPMOHS200A Work safely

MSAPMOPS101A Make measurements

MSAPMSUP102A Communicate in the workplace

MSAPMSUP106A Work in a team

MSAPMSUP383A Facilitate a team

MSF Furnishing Training Package

MSFDN4002 Produce line and component production drawings

MSFDN4003 Produce patterns and/or templates

MSFDN5001 Generate and transfer complex computer-aided drawings and specifications

MSFFF2001 Use furniture finishing sector hand and power tools

MSFFF2007 Apply stains fillers and bleach

MSFFF2008 Apply surface coatings by hand

MSFFF3003 Apply plural component coatings

MSFFF3004 Apply soft rubber techniques

MSFFF3005 Enhance finishes

MSFFF3006 Repair and touch up surfaces

MSFFM2010 Set up and operate basic static machines

MSFFM3009 Produce manual and computer-aided production drawings

MSFFM3024 Construct jigs and fixtures

MSFFM4001 Hand carve wood to custom design

MSFFM4003 Produce curved and shaped components for custom furniture

MSFFM4004 Produce timber veneered components for custom furniture

MSFFT4011 Purchase materials and consumables

MSFFT5008 Develop, trial and evaluate prototypes

MSFFT5010 Develop products and related processes


MSFGN2001 Make measurements and calculations

MSFGN2002 Move and store materials and products

MSFGN3001 Read and interpret work documents

MSFGN3002 Estimate and cost job

MSFPF4002 Determine and apply gilding techniques

	<p>MSFPT3003 Repair upright and grand piano actions, keys and pedals</p> <p>MSFPT3005 Re-string and re-pin a piano</p> <p>MSFPT3007 Regulate actions, keys and pedals of grand pianos</p> <p>MSFPT3008 Apply piano tuning theory and basic acoustics</p> <p>MSFPT3009 Develop control of tuning hammers</p> <p>MSFPT3010 Pitch raise a piano</p> <p>MSFPT3014 Tune a piano aurally and electronically within time and accuracy constraints</p> <p>MSFPT3016 Provide advice to customers on piano tuning and repair</p> <p>SIR07 Retail Services Training Package</p> <p>SIRXIND101 Work effectively in a customer service environment</p> <p>TLI10 Transport and Logistics Training Package</p> <p>TLID2003A Handle dangerous goods/hazardous substances</p> <p>Copyright of the following units of competency from accredited curriculum is held by the Department of Education and Training, Victoria © State of Victoria.</p> <p>22229VIC Diploma of Engineering Technology</p> <p>VU21212 Apply computer aided manufacturing (CAM) processes.</p>
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6. Course accrediting body	<p>Victorian Registration and Qualifications Authority (VRQA)</p> <p>Website: www.vrqa.vic.gov.au</p>

Section A: Copyright and course classification information

7. AVETMISS information		
	ANZSCO (OCCUPATIONAL TYPE) CODES	399515 Musical instrument maker or repairer
	ASCED (FIELD OF EDUCATION) CODE	0301 Manufacturing Engineering and Technology
	National course code	22305VIC 22306VIC
8. Period of accreditation	1 January 2016 to 31 December 2020	

Section B: Course information

1. Nomenclature	
1.1 Name of the qualifications	Certificate III in Musical Instrument Making and Maintenance. Certificate IV in Musical Instrument Making and Repair.
1.2 Nominal duration of the courses	Certificate III in Musical Instrument Making and Maintenance 637 - 972 hours Certificate IV in Musical Instrument Making and Repair 546 - 1858 hours
2. Vocational or educational outcomes of the courses	<p>The Certificate III in Musical Instrument Making and Maintenance reflects the role of individuals who make and maintain a wide range of musical instruments. This role is usually performed under supervision and is conducted in a music manufacturing or retail work environment.</p> <p>The Certificate IV in Musical Instrument Making and Repair reflects the role of individuals who manufacture and repair a wide range of musical instruments. Individuals in this role develop manufacturing processes and undertake repair functions with a focus on structural integrity, aesthetics and sound quality. In this role they may have team leader or supervisory roles or operate as a small business owner.</p>
3. Development of the course	<p>3.1 Industry/enterprise/community needs</p> <p>Qualification History</p> <p>In 2009, the first nationally endorsed qualifications were released within the LMF02 Furnishing Training Package. The LMF31408 Certificate III in Musical Instrument Making and Repair and LMF40308 Certificate IV in Musical Instrument Making and Repair replaced the Victorian and Queensland state based accredited courses and extended the content to include manufacture and repair units at the Certificate III level, and a limited number of repair units at the Certificate IV level. The introduction of multi-level qualifications recognised the need for skill progression within vocational outcomes for the first time, reflecting growth in the depth of the industry. These qualifications were consistently delivered over that time by one Registered Training Organisation (RTO), the Northern College of the Arts and Technology (NCAT) in Melbourne.</p> <p>As part of its training package review, these qualifications were omitted from the MSF Furnishing Training Package which was released in November 2013, as their need at that time was not recognised on a national level. However, telephone discussions with small proprietors from a range of musical retail and repair organisations within Victoria, consultation with NCAT, and group industry discussion confirmed the need for the development of contemporary courses that address the wide range of skills and knowledge required of the entry level graduate and beyond at the Victorian state level.</p>

Industry Profile

The cultural appeal of music is recognised in all aspects of the community. Whether music is enjoyed for religious, entertainment, personal recreation, or commercial purposes, the quality of the music produced depends in part upon the integrity of the instrument played. The skill of musical instrument making and repair underpins the perpetuation of this highly valued art form.

Statistics indicate that over 4,000 people are directly employed in the musical instruments and products industries. Within this sector, the vast majority of instruments available for sale are imported. Current figures show that over 90% of musical instruments and technology are imported and supplied to retail chains via large wholesale and distribution networks, which has a value to the economy of approximately \$560 million dollars.

The local musical instrument making and repair industry supplies the remaining 10% of retail product. This is considered a niche market that consists of two major Melbourne based guitar manufacturers, (Cole Clark Guitars and Maton Guitars) and a large number of small operators that specialise in the making and repair of particular instrument types.

The two local manufacturers boast strong domestic market share and their growing international reputations have facilitated the expansion of their exports to the United States of America, United Kingdom, Europe, Japan, New Zealand, Hong Kong, France, Switzerland and Ireland. The Department of State Development, Business and Innovation has provided funding assistance for the procurement of new technology to enhance production processes and enable further expansion into these regions.

An active professional network operates within this niche market to promote industry trade and training. The Australian Music Association (AMA) represents music wholesalers and retailers as a 'community'. It encourages member engagement through the delivery of product trade shows, the promotion and involvement in music festivals and conferences and the sharing of music industry issues via its website.

Course research and industry consultation

A number of activities were undertaken to review the need for, and content of, the proposed courses. These included:

- Skills and knowledge profile workshops
- Project steering committee meetings
- Discussion with AMA, NCAT, MSA, VRQA, HESG, Maton Guitars and Cole Clark Guitars representatives and other industry representatives.

The skills and knowledge workshops identified the essential skills and knowledge outcomes required for instrument makers and repairers. The results identified the need for the two qualifications at the Certificate III and Certificate IV levels and include the following range of skills and knowledge as critical or very important:

- Measure and make mathematical calculations
- Communicate effectively with customers and colleagues
- Problem solve for instrument making and repair
- Reflect and learn from experience
- Adopt a considered approach when undertaking tasks

- Make an instrument according to a design brief
- Maintain and repair instruments from customer instructions
- Develop an 'eye for detail'
- Apply a reasonable level of manual dexterity
- Understand pitch and tone.

There is a clear industry need for two skill level groupings which represent different vocational outcomes. The skills and knowledge required at entry level for musical instrument making, maintenance and service complies to AQF level III qualification criteria. The skill and knowledge requirements of staff members involved in manufacture and repair processes aligns to AQF level IV qualification criteria.

Anticipated Course Demand

Local manufacturers forecast expansion into established export markets. Enrolment statistics at NCAT reveal demand was consistently trending upward for both qualifications.

Current labour market reports do not identify this industry as having a skills shortage. In the absence of a nationally endorsed training package qualification being available, the gap between industry demand and the availability of trained entry level employees could have unfavourable consequences for industry in the short term. The Regional Market Facilitation Manager, Higher Education and Skills also support this view.

A Project Steering Committee (PSC) was formed to oversee the development of the proposed accredited courses consisting of:

- | | |
|-----------------------------|--------------------------------------------------------------|
| • Mr Rob Walker (Chair) | Executive Director,
Australian Music Association |
| • Mr Patrick Evans | Manager, Maton Guitars |
| • Ms Raffaella Galati-Brown | Principal,
Northern College of the Arts and
Technology |
| • Mr Bon Nardella | Northern College of the Arts and
Technology |
| • Mr Benedict Stewart | Director,
Ben Stewart Instruments |

In attendance:

- | | |
|-------------------------|---------------------------------------------------------------------------------------|
| • Mrs Teresa Signorello | Curriculum Maintenance Manager,
Building and Construction,
Holmesglen Institute |
| • Ms Susan Fechner | Project Officer,
Holmesglen Institute |

The Certificate III in Musical Instrument Making and Maintenance and the Certificate IV in Musical Instrument Making and Repair do not duplicate existing training products.

3.2 Review for re-accreditation

This is an accreditation therefore this is not applicable.

4. Course outcomes

4.1 Qualification level

The Certificate III in Musical Instrument Making and Maintenance complies with the level 3 specifications of the Australian Qualifications Framework Second Edition January 2013 as follows:

Knowledge

Graduates of the Certificate III in Musical Instrument Making and Maintenance will have factual, technical, procedural and theoretical knowledge in the areas of:

- Occupational Health and Safety/Work Health and Safety (OHS/WHS)
- environmentally sustainable work practices
- wood types and metal properties
- safe instrument storage practices
- assembly processes
- finishing methodology.

Skills

Graduates at this level will have a range of cognitive, technical and communication skills to select and apply a specialised range of methods, tools, materials and information to complete routine activities such as:

- safe power tool usage
- reading work orders and diagrams
- making basic mathematical calculations and measurements
- assembly for instrument making
- instrument maintenance and service
- finishing applications.

Graduates will also provide and transmit solutions to predictable and sometimes unpredictable problems such as instrument tuning to standards, sequencing of work processes, raw material assessment and OHS/WHS application.

Application of knowledge and skills

Graduates at this level will apply knowledge and skills to demonstrate autonomy and judgement and take limited responsibility in known and stable contexts within established parameters through:

- reading and interpreting work order and maintenance requests
- completing assembly tasks within defined time frames
- identifying faults in raw materials and tools prior to, and during work tasks
- communicating OHS/WHS issues to appropriate personnel in a timely manner
- cleaning, checking and storing tools and equipment correctly.

Volume of learning

The volume of learning for this qualification is typically 1 - 2 years and incorporates structured and unstructured learning activities to develop musical instrument making and maintenance knowledge and skill. Structured activities may include reading text material, completing projects and assignments. Unstructured activities may include researching the making of specific instrument types, discussions with a mentor, preparing for assessments and investigating pathway options for further learning appropriate to desired learning goals.

The Certificate IV in Musical Instrument Making and Repair complies with the level 4 specifications of the Australian Qualifications Framework Second Edition January 2013 as follows:

Knowledge

Graduates of the Certificate IV in Musical Instrument Making and Repair will have broad factual, technical and some theoretical knowledge of a specific area or a broad field of work and learning in the areas of:

- OHS/WHs
- environmentally sustainable work practices
- a range of instrument types, associated structures and characteristics
- manufacturing techniques
- repair methodologies
- properties of raw materials and their sources
- drawing techniques
- finishing methodology.

Skills

Graduates at this level will have a broad range of cognitive, technical and communication skills to select and apply a range of methods, tools, materials and information to complete routine and non routine activities such as:

- safe power tool and machine usage
- instrument manufacturing processes
- manual and computer aided drawing
- instrument repair and problem solving
- finishing applications.

Graduates will also provide and transmit solutions to a variety of predictable and sometimes unpredictable problems such as instrument repair requests, machine breakdowns, adequacy of raw material, OHS/WHs application and scheduling of competing job tasks.

Application of knowledge and skills

Graduates at this level will be able to apply knowledge and skills to demonstrate autonomy and judgement and limited responsibility in known or changing contexts and within established parameters through:

- operating tools and equipment safely to make musical instruments with minimal material wastage
- monitoring quality of machined tasks and initiating procedures for machine recalibration based on variances identified
- questioning customers to determine the nature and scope of instrument repairs
- calculating time frames for instrument repairs with cognisance to resource availability and prioritised job schedules.

Volume of learning

The volume of learning for this qualification is typically 0.5 - 2 years and incorporates structured and unstructured learning activities to develop musical instrument making and repair knowledge and skill. Structured activities may include researching reading material related to the properties of specific instruments, problem solving repair projects and instrument making assignments. Unstructured activities may include using on line mediums to communicate with other participants, music-based discussions with workplace colleagues and mentors, preparing for assessments and evaluating pathway options for further learning and developing flexible learning goals.

4.2 Employability skills

Refer to Appendix A for Employability Skills Summaries for each qualification.

4.3 Recognition given to the course (if applicable)

Not applicable

4.4 Licensing/regulatory requirements (if applicable)

There are no licensing requirements for this course.

5. Course rules

5.1 Course structure

Certificate III in Musical Instrument Making and Maintenance

To be awarded the qualification, Certificate III in Musical Instrument Making and Maintenance, participants are required to successfully complete 21 units of competency.

- 10 core units
- 11 elective units comprising:
 - 2 units from Group A - Make Instruments
 - 2 units from Group B - Maintain and Service Instruments
 - 7 units not previously selected from groups A, B or C.

Participants who exit the program without completing all of the units will receive a statement of attainment identifying those units that they have achieved.

Unit of competency/ module code	Field of Education code (six-digit)	Unit of competency/module title	Pre-requisite	Nominal hours
Core units				
MSAENV272B	N/A	Participate in environmentally sustainable work practices	Nil	30
MSAPMOPS101A	N/A	Make measurements	Nil	30
MSAPMOHS200A	N/A	Work safely	Nil	30
MSAPMSUP102A	N/A	Communicate in the workplace	Nil	20
MSAPMSUP106A	N/A	Work in a team	Nil	30
MSFFM2001	N/A	Use furniture making sector hand and power tools	Nil	40
MSFFM3024	N/A	Construct jigs and fixtures	Nil	40
MSFGN3001	N/A	Read and interpret work documents	Nil	24
TLID2003A	N/A	Handle dangerous goods /hazardous substances	Nil	40
VU21803	030199	Assemble instrument components	Nil	48
Elective Units Group A Make Instruments (choose 2)				
VU21804	030199	Make acoustic guitars	Nil	40
VU21805	030199	Make electric guitars	Nil	40
VU21806	030199	Make percussion instruments	Nil	40
VU21807	030199	Make brass instruments	Nil	120
VU21808	030199	Make woodwind instruments	Nil	40
VU21809	030199	Make stringed instruments	Nil	80
VU21810	030199	Make special stringed instruments	Nil	40
VU21811	030199	Make aerophone instruments	Nil	40

Section B: Course information

Unit of competency/ module code	Field of Education code (six-digit)	Unit of competency/module title	Pre-requisite	Nominal hours
Elective Units Group B Maintain and Service Instruments (choose 2)				
VU21812	030199	Maintain and service acoustic guitars	Nil	40
VU21813	030199	Maintain and service electric guitars	Nil	40
VU21814	030199	Maintain and service percussion instruments	Nil	20
VU21815	030199	Maintain and service brass instruments	Nil	25
VU21816	030199	Maintain and service stringed instruments	Nil	50
VU21817	030199	Maintain and service special stringed instruments	Nil	40
VU21818	030199	Maintain and service woodwind instruments	Nil	20
Elective Units Group C General (choose 7) from A, B or C				
MSFFF2007	N/A	Apply stains, fillers and bleach	Nil	52
MSFFF2008	N/A	Apply surface coatings by hand	Nil	40
MSFFF3003	N/A	Apply plural component coatings	Nil	52
MSFFF3004	N/A	Apply soft rubber techniques	Nil	20
MSFFF3005	N/A	Enhance finishes	Nil	24
MSFFM2010	N/A	Set up and operate basic static machines	Nil	56
MSFFM3009	N/A	Produce manual and computer-aided production drawings	Nil	60
MSFGN2002	N/A	Move and store materials and products	Nil	16
VU21819	030199	Construct and apply decorative treatments and finishes to musical instruments	Nil	30
CUVACD101A	N/A	Use basic drawing techniques	Nil	50
VU21820	100501	Apply colour theory in response to a brief	Nil	30
Total nominal hours				637 - 972

Certificate IV in Musical Instrument Making and Repair

To be awarded the qualification, Certificate IV in Musical Instrument Making and Repair, participants are required to successfully complete 20 units of competency.

- 7 core units
- 13 elective units comprising:
 - a minimum of 1 unit from Group A - Manufacture Instruments
 - a minimum of 2 units from Group B - Repair Instruments
 - Choose remaining units from groups A, B or C.

Participants who exit the program without completing all of the units will receive a statement of attainment identifying those units that they have achieved.

Unit of competency/ module code	Field of Education code (six-digit)	Unit of competency/module title	Pre-requisite	Nominal hours
Core units				
MSAPMSUP383A	N/A	Facilitate a team	Nil	30
MSAENV472B	N/A	Implement and monitor environmentally sustainable work practices	Nil	40
BSBCMM402	N/A	Implement effective communication strategies	Nil	40
MSFGN2001	N/A	Make measurements and calculations	Nil	30
MSAPMOHS200A	N/A	Work safely	Nil	30
TLID2003A	N/A	Handle dangerous goods /hazardous substances	Nil	40
VU21821	030199	Develop and update music products industry knowledge	Nil	10
Elective Units Group A Manufacture Instruments (choose a minimum of 1)				
VU21822	030199	Manufacture acoustic guitars	Nil	80
VU21823	030199	Manufacture electric guitars	Nil	80
VU21824	030199	Manufacture special stringed instruments	Nil	80
VU21825	030199	Manufacture stringed instruments	Nil	260
VU21826	030199	Manufacture percussion instruments	Nil	80
VU21827	030199	Manufacture brass instruments	Nil	320
VU21828	030199	Manufacture woodwind instruments	Nil	320
Elective Units Group B Repair Instruments (choose a minimum of 2)				
VU21829	030199	Repair acoustic guitars	Nil	80
VU21830	030199	Repair electric guitars	Nil	80
VU21831	030199	Repair special stringed instruments	Nil	80
VU21832	030199	Repair stringed instruments	Nil	100
VU21833	030199	Repair percussion instruments	Nil	40
VU21834	030199	Repair brass instruments	Nil	56
VU21835	030199	Repair woodwind instruments	Nil	40
VU21836	030199	Repair aerophone instruments	Nil	40

Section B: Course information

Unit of competency/ module code	Field of Education code(six-digit)	Unit of competency/module title	Pre-requisite	Nominal hours
Elective Units Group C General (choose remaining units from elective groups A, B or C)				
MSFFF2007	N/A	Apply stains, fillers and bleach	Nil	52
MSFFF2008	N/A	Apply surface coatings by hand	Nil	40
MSSFFF3003	N/A	Apply plural component coatings	Nil	52
MSFFF3004	N/A	Apply soft rubber techniques	Nil	20
MSFFF3005	N/A	Enhance finishes	Nil	24
MSFFM4001	N/A	Hand carve wood to custom design	Nil	60
MSFDN4002	N/A	Produce line and component production drawings	Nil	64
MSFDN4003	N/A	Produce patterns and/or templates	Nil	36
MSFDN5001	N/A	Generate and transfer complex computer-aided drawings and specifications	Nil	72
MSFFM4003	N/A	Produce curved and shaped components for custom furniture	Nil	64
MSFFM4004	N/A	Produce timber veneered components for custom furniture	Nil	64
MSFFT4011	N/A	Purchase materials and consumables	Nil	36
MSFGN3002	N/A	Estimate and cost job	Nil	16
BSBSMB404	N/A	Undertake small business planning	Nil	50
MSFFT5008	N/A	Develop, trial and evaluate prototypes	Nil	108
CULMS010B	N/A	Contribute to the preservation of cultural material	Nil	50
CUVACD303A	N/A	Produce technical drawings	Nil	50
CUVPRP405A	N/A	Develop and discuss ideas for own creative work	Nil	60
CUVPHI302A	N/A	Capture photographic images	Nil	50
MSFPF4002	N/A	Determine and apply gilding techniques	Nil	80
VU21804	030199	Make acoustic guitars	Nil	40
VU21805	030199	Make electric guitars	Nil	40
VU21806	030199	Make percussion instruments	Nil	40
VU21807	030199	Make brass instruments	Nil	120
VU21808	030199	Make woodwind instruments	Nil	40
VU21809	030199	Make stringed instruments	Nil	80
VU21810	030199	Make special stringed instruments	Nil	40
VU21811	030199	Make aerophone instruments	Nil	40

Section B: Course information

Unit of competency/ module code	Field of Education code(six-digit)	Unit of competency/module title	Pre-requisite	Nominal hours
CUVICS04B	N/A	Originate and develop a concept	Nil	80
SIRXIND101	N/A	Work effectively in a customer service environment	Nil	45
BSBSMB402	N/A	Plan small business finances	Nil	50
MSFFF3006	N/A	Repair and touch up surfaces	Nil	40
MSFFM3009	N/A	Produce manual and computer-aided production drawings	Nil	60
CUVCAL301A	N/A	Produce calligraphy	Nil	50
BSBRK401	N/A	Identify risk and apply risk management processes	Nil	50
MSFPT3003	N/A	Repair upright and grand piano actions, keys and pedals	Nil	50
MSFPT3005	N/A	Re-string and re-pin a piano	Nil	40
MSFPT3007	N/A	Regulate actions, keys and pedals of grand pianos	Nil	40
MSFPT3008	N/A	Apply piano tuning theory and basic acoustics	Nil	30
MSFPT3009	N/A	Develop control of tuning hammers	Nil	30
MSFPT3010	N/A	Pitch raise a piano	Nil	30
MSFPT3014	N/A	Tune a piano aurally and electronically within time and accuracy constraints	MSFPT3007 MSFPT3008 MSFPT3009 MSFPT3010	90
MSFPT3016	N/A	Provide advice to customers on piano tuning and repair	Nil	20
VU21212	030101	Apply computer aided manufacturing (CAM) processes	Nil	40
MSFFT5010	N/A	Develop products and related processes	Nil	54
BSBMGT403	N/A	Implement continuous improvement	Nil	40
MEM05003B	N/A	Perform soft soldering	Nil	20
Total nominal hours				546 - 1858

<p>5.2 Entry requirements</p>	<p>There are no entry requirements for the 22305VIC Certificate III in Musical Instrument Making and Maintenance and 22306VIC Certificate IV in Musical Instrument Making and Repair.</p> <p>The following is a general guide to entry in relation to the language, literacy and numeracy skills of learners aligned to the Australian Core Skills Framework (ACSF), details of which can be accessed from http://www.industry.gov.au/skills/ForTrainingProviders/AustralianCoreSkillsFramework/Documents/ACSF_Document.pdf</p> <p>Learners are best equipped to achieve the course outcomes in the 22305VIC Certificate III in Musical Instrument Making and Maintenance if they have minimum language, literacy and numeracy skills that are equivalent to Level 2 of the ACSF.</p> <p>Learners are best equipped to achieve the course outcomes in the 22306VIC Certificate IV in Musical Instrument Making and Repair if they have minimum language, literacy and numeracy skills that are equivalent to Level 3 of the ACSF.</p> <p>Learners with language, literacy and numeracy skills at lower levels than those suggested will require additional support to successfully undertake the qualifications</p>
<p>6. Assessment</p> <p>6.1 Assessment strategy</p>	<p>Standard 10 AQTF Standards for Accredited Courses</p> <p>All assessment will be consistent with the AQTF Essential Conditions and Standards for Initial/Continuing Registration Standards 1.2/1.5.</p> <p>or</p> <p>Standard 1: Clauses 1.1 and 1.8 of the Standards for Registered Training Organisations (SRTOs) 2015.</p> <p>See http://www.nssc.natese.gov.au/vet_standards/standards_for_rtos</p> <p>The nature of work undertaken in the musical instrument making industry is hands on, practical and involves evolving technologies in curing and machining. Assessment strategies should therefore reflect this.</p> <p>It is recommended that the assessment strategy for the Certificate III in Musical Instrument Making and Maintenance and Certificate IV in Musical Instrument Making and Repair qualifications include assessment methods such as:</p> <ul style="list-style-type: none"> • oral or written questioning related to underpinning knowledge • the practical demonstration of activities which combine a number of learning outcomes to provide depth and context to the training • holistic assessment that reflects realistic job task. <p>Assessments of units of competency from nationally endorsed training packages and/or accredited courses must be in accordance with the assessment requirements incorporated in the endorsed component of the relevant training package or outlined in the assessment strategy in the accredited course.</p>

	<p>Delivery of the Certificate III in Musical Instrument Making and Maintenance and the Certificate IV in Musical Instrument Making and Repair requires:</p> <ul style="list-style-type: none"> – tools, jigs and equipment for musical instrument making, maintenance and repair – classroom facilities – workshop facilities including welding – a simulated workplace environment – basic materials to complete practical music instrument making, maintenance and repair projects – computers with internet access – relevant music instrument making, maintenance and repair documentation and legislation. <p>Refer to the individual units for specific tool and equipment requirements.</p> <p>Trainer competencies must be consistent with the requirements of Standard 1 (clause 1.13-1.16) of the Standards for Registered Training Organisations (RTOs) 2015.</p>
8. Pathways and articulation	<p>There are no formal articulation arrangements for this course.</p> <p>A range of potential pathways are possible when units of competency from endorsed training packages or other accredited curricula are completed.</p>
9. Ongoing monitoring and evaluation	<p>The Curriculum Maintenance Manager (CMM) for Building and Construction is responsible for the ongoing monitoring and maintenance of the qualifications.</p> <p>A formal review will take place once during the period of accreditation and will be informed by feedback from the users of the curriculum and will consider at a minimum:</p> <ul style="list-style-type: none"> • any changes required to be meet emerging or developing needs • changes to any units of competency from nationally endorsed Training Packages or accredited curricula. <p>Any significant changes to the courses will be notified to the VRQA.</p>

Appendix A: Employability Skills Table

Certificate III in Musical Instrument Making and Maintenance	
Employability skill	Industry requirements for this course include the following facets
Communication	<ul style="list-style-type: none"> Confirm information related to work orders, instrument making plans and safety procedures Question, listen and interpret to identify instrument maintenance requirements
Teamwork	<ul style="list-style-type: none"> Confirm coordination of assembly with team leader and other workers, the reporting of work outcomes and problems Work with others and in a team by recognising dependencies and use cooperative approaches to optimise work flow and productivity
Problem solving	<ul style="list-style-type: none"> Identify, analyse and respond to instrument tuning maintenance requirements Identify and respond to faults related to timber and material properties
Initiative and enterprise	<ul style="list-style-type: none"> Inspect tools to ensure they are ready to use Use checking and inspection techniques to ensure instruments comply with specifications and that instances of non-compliance are remedied Select and apply the most appropriate instrument maintenance and repair techniques
Planning and organising	<ul style="list-style-type: none"> Sequence assemblies in an effective and efficient manner Apply appropriate OHS/WHS practices according to workplace procedures
Self-management	<ul style="list-style-type: none"> Clarify and confirm specified work instructions and apply to assembly approach Utilise effective time management skills to meet output requirements Accept responsibility for given tasks Monitor progress towards the achievement of personal work goals
Learning	<ul style="list-style-type: none"> Maintain current knowledge of instrument making and maintenance methods, tools and materials Maintain current knowledge of instruments making and maintenance processes and techniques Seek learning opportunities

Certificate IV in Musical Instrument Making and Repair	
Employability skill	Industry requirements for this course include the following facets
Technology	<ul style="list-style-type: none"> Use the workplace technology related to the selection, preparation and use of instrument products and materials including hand and power tools, calculators, measuring devices and technical support systems
Communication	<ul style="list-style-type: none"> Collect, organise and understand information related to manufacturing processes, sustainable practices and safety procedures Discuss, evaluate and confirm instrument repair requirements with supervisor, suppliers and customers
Teamwork	<ul style="list-style-type: none"> Collect, organise and understand detailed technical information related to the materials and the components used in and related to musical instrument making and repair Communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with site supervisor, other workers and customers, and the reporting of output and variances to planned targets Maintain records related to product and materials quality, maintenance and service and repair Use cooperative approaches to optimise efficiencies in manufacturing processes and output
Problem solving	<ul style="list-style-type: none"> Analyse repair requests with cognisance to job schedules, available resources, material effects and potential impacts to sound quality, aesthetics and playability. Provide solutions to non routine machine breakdowns
Initiative and enterprise	<ul style="list-style-type: none"> Use pre-checking and inspection techniques to ensure tools and machinery are serviceable and safe to use Causes of instrument non-compliance are identified, investigated and rectified in a prompt manner Identify, anticipate and respond to faults in timber and/or seasoning processes Research sources for alternative materials for instrument repair Identify, anticipate and respond to problems related to manufacturing processes Identify and analyse faults in instruments Select and apply the most appropriate instrument repair techniques Identify and rectify issues with making and manufacturing processes

Certificate IV in Musical Instrument Making and Repair	
Employability skill	Industry requirements for this course include the following facets
Planning and organising	<ul style="list-style-type: none"> Identify, anticipate and respond to the impact of the instruments properties on the product Schedule repairs according to competing customer requirements and inventory/material availability Sequence manufacturing processes to maximise efficient use of resources
Self-management	<ul style="list-style-type: none"> Plan work processes with cognisance to competing task demands Implement and monitor systematic time management strategies for interdependent work processes Set, monitor and achieve production work goals
Learning	<ul style="list-style-type: none"> Satisfy the competency requirements for the job Maintain current knowledge of instrument making, manufacturing and repairing tools and production materials Maintain current knowledge of instruments making, manufacturing and repairing processes and techniques
Technology	<ul style="list-style-type: none"> Identify and use workplace technology related to the manufacture and repair of musical instruments Identify and use workplace technology to source solutions to machinery breakdowns Understand the properties of materials technology and the potential effect of adhesives on instrument aesthetics and sound quality

Section C: Units of competency

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VU21820 Apply colour theory in response to a brief

Unit Descriptor This unit describes the performance, skills and knowledge required to explore and apply colour theory in response to a musical instrument making, maintenance or repair brief.

Employability Skills This unit contains employability skills.

Pre-requisite unit(s) Nil.

Application of the Unit This unit applies to music instrument makers and repairers who are required to have skills and knowledge of colour theory and apply this knowledge to respond to a work brief.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Examine information on colour theory | 1.1. <i>Sources of information</i> about <i>colour theory</i> relevant to <i>the brief</i> are identified and accessed.
1.2. Knowledge of colour theory is used to inform musical instrument making, maintenance and repair work as required by the brief. |
| 2. Apply colour theories to produce samples | 2.1. <i>Materials, tools</i> and <i>equipment</i> required for the production of colour theory samples are selected.
2.2. Appropriate safety procedures to apply instances of colour theory are followed.
2.3. Colour theory outcomes in relation to the brief are considered and adjustments made accordingly.
2.4. <i>Samples</i> are produced which demonstrate the appropriate application of colour theory to a brief.
2.5. Work is presented and stored in a format which takes account of the need for professional presentation and potential need for the samples in future work. |

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - communicate ideas and information
 - confirm brief
 - problem solve.
- Literacy skills to:
 - research information related to colour theory interpret material safety data sheets
 - interpret a brief.
- Numeracy skills to:
 - calculate quantities and proportions related to the brief including determining relevant layout issues.
- Self-management skills to:
 - collect, organise and understand material related to interpreting the brief
 - recognise and respond to circumstances outside instructions or personal competence
 - plan and organise activities related to producing samples in response to the brief
 - prepare and layout of own work area including the obtaining and use of appropriate tools and materials
 - accept responsibility for given tasks.
- Technology skills to:
 - maintain current knowledge of tools and materials
 - maintain current knowledge of colour theory.

Required knowledge

- Legislation and procedures:
 - Workspace organisation and maintenance including environmental and safety issues relevant to musical instrument making and repair
 - Copyright, moral rights and intellectual property issues and legislation and their impact on aspects of design.
- Problem identification and resolution within job parameters:
 - The role and nature of a brief within the design process, including different types of briefs and how designers use them
 - Awareness of individual interpretation and choice within the design process, and the potential limitations of colour theory
 - Materials, tools and equipment required to apply colour theory in a relevant workplace context
 - Characteristics of materials and their interaction with paints and pigments
 - Colour attributes and colour relationships
 - Different colour theories and their applications to different contexts
 - Knowledge about how other artists and designers use of colour in their work
 - Awareness of emotional, cultural and situational aspects of colour.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Sources of information may include:

- books and magazines
- art and design work
- specific texts
- anecdotal sources
- personal observation.

Colour theory may include:

- practical guidance to mix colour and the visual effects of a specific colour combination
- colour grading
- the colour wheel
- colour schemes
- colour scales
- colour attributes in hue, chroma, value
- effective colour relationships such as harmonies and discords
- warm and cool colours
- tints, shades and tones
- colour models (emotional, physical and psychological effects of colour)
- the application of light.

The brief may include:

- drawings
- specifications
- designs
- job sheets
- work instructions.

Materials may include:

- a range of papers
- cardboard
- gouche, watercolour, acrylic, pastels, colour pencils, crayons
- glue
- lighting materials

Materials may include:
(Continued)

- timber (including those traditionally used in instrument making and repair)
- relevant workplace materials e.g. metals, timbers, veneers, manufactured board, solders, surface finish materials such as:
 - lacquers
 - shellac
 - wax
 - oil
 - stripper
 - spirit stains
- water stains.

Tools and equipment may include:

- receptacles
- spray guns
- air brushes
- sponges
- measuring tapes or rules
- a range of brushes
- digital equipment
- software
- light sources/equipment
- relevant workplace items e.g. hammers, planes, sanders, clamps, soldering irons, etc.

Samples may include:

- the application of colour theory to a work in progress
- sample boards
- colour swatches
- colour wheels
- digital output
- drawn, painted or printed output
- the application of natural and artificial lighting effects
- photographs.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Fundamental understanding of colour theory
 - Production of a range of samples which apply colour theory in accordance with the requirements of the brief
 - Effectively use tools and equipment related to the production of a sample
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials and equipment relevant to the industry to apply colour theory to a brief
 - a given brief with specifications
 - access to digital technology to obtain information
 - access to information sources in order to conduct research and collect sufficient information of colour theory and relevant industry materials.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - project activities that allow the candidate to demonstrate the application of knowledge to the brief according to specific industry contexts and situations
 - evaluation of a range of samples in response to the given brief
 - case studies and problem-solving exercises to assess application of knowledge to different situations and contexts
 - written and oral questioning or interview to test knowledge of colour theory as it relates to the sample produced in response to the brief given
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

VU21803 Assemble instrument components

Unit Descriptor	This unit describes performance outcomes, skills and knowledge required to assemble timber components of musical instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument manufacturing organisations of all sizes. The assembly of instrument components applies to a known workplace environment with established parameters. It involves following instructions for assembling components for a musical instrument, the application of skills and knowledge within routine activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for component assembly | <p>1.1. Applicable <i>Occupational Health and Safety (OHS)/ Work Health and Safety (WHS), legislative and organisational requirements</i> relevant to assemble components are verified and complied with.</p> <p>1.2. <i>Work order</i> is reviewed, confirmed and clarified with <i>appropriate personnel</i>.</p> <p>1.3. Work instructions are used to determine job requirements including design, tolerances, process, <i>materials</i>, finish and quality.</p> <p>1.4. Assembly sequence is planned.</p> <p>1.5. Procedures are determined for checking quality at each stage of the process.</p> |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare for component assembly	<p>2.1. Fixing and joining devices are selected in line with work instructions and type of materials to be joined.</p> <p>2.2. Suitable work area is selected for the task.</p> <p>2.3. Components, hardware, fittings and attachments are collected.</p> <p>2.4. Tools and equipment suitable to the fixing method are selected and checked for safe operation.</p> <p>2.5. Required jigs (if any) are selected and checked for suitability for purpose.</p>
3. Assemble components	<p>3.1. Components are laid out and joined using jigs (if required) and appropriate fastenings.</p> <p>3.2. Hand and/or power tools and equipment are used as required.</p> <p>3.3. Assembled instrument is checked for alignment and squareness, correct number and fittings of fasteners, hardware, fitting and attachments, conformity to work instruction and quality requirements.</p> <p>3.4. Components which do not meet quality specifications are repaired or tagged for further processing or recycling/disposal.</p> <p>3.5. Finished instruments are organised and stored in holding area ensuring there is no obstruction to traffic, products are not damaged in storage, incompatible items are not stored together, products are arranged to match the sequence of work.</p>
4. Finalise component assembly	<p>4.1. Faulty and/or defective equipment is tagged and reported in accordance with standard operating procedures (SOPs).</p> <p>4.2. Waste and scrap is removed following SOPs.</p> <p>4.3. Tools and equipment used are cleaned, inspected for serviceable condition and stored appropriately in accordance with SOPs.</p> <p>4.4. Equipment and work area clean-up is maintained in accordance with workplace procedures and professional standards.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand timber technology and information related to instrument assembly
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.
- Technology skills to:
 - identify, anticipate and respond to faults in timber and/or assembly components
 - apply basic work area and equipment inspection procedures
 - use the workplace technology related to the selection and assembly of components including calculators, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment
 - Basic characteristics of timber, timber products and defects
 - Reporting requirements and procedures
 - Procedures for the recording, reporting and maintenance of workplace records and information
 - Cutting patterns and sequences relevant to the component assembly
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Instrument storage and labelling at each stage of the assembly process.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of :
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals

Organisational requirements may include: (Continued)

- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and interpret a work/job specification
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Plan, prepare and assemble components.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials and equipment relevant to the assembly of musical instrument components
 - specifications and work instructions.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following example are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to assembling instrument component
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolio of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21819 Construct and apply decorative treatments and finishes to musical instruments

Unit Descriptor	This unit describes performance outcomes, skills and knowledge required to construct and apply decorative treatments, including veneers, laminates and inlays to musical instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument manufacturing organisations of all sizes. The construction and application of decorative treatments and finishes to musical instruments applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level, within routine and non-routine activities demonstrating autonomy and limited problem solving responsibility.</p>

No licensing, legislative or certification requirements apply to this unit at the time of publication.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for work | <p>1.1. Applicable <i>Occupational Health and Safety (OHS)/ Work Health and Safety (WHS), legislative and organisational requirements</i> relevant to machine material and the construction and application of decorative treatments and finishes to musical instruments are verified and complied with.</p> <p>1.2. <i>Work order</i> is reviewed, confirmed and clarified with <i>appropriate personnel</i>.</p> <p>1.3. Work instructions are used to determine job requirements including design, tolerances, process, materials, finish and quality.</p> |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	<p>1.4. Assembly sequence is planned.</p> <p>1.5. Procedures are determined for checking quality at each stage of the process.</p>
2. Prepare for work	<p>2.1. Equipment, tools and processes are identified and checked for safe and effective operation.</p> <p>2.2. Suitable work area is selected for the task.</p> <p>2.3. Materials are selected, checked for flaws and prepared for cutting following work instructions.</p> <p>2.4. Design of item/s is laid out.</p> <p>2.5. Suitable joining points are selected.</p> <p>2.6. Machines and equipment are checked for availability.</p> <p>2.7. Required hand and/or power tools, equipment and materials are collected in the work area.</p>
3. Cut and fit items	<p>3.1. Material is cut to size and thickness and laid out in the required design.</p> <p>3.2. Design of item/s is cut to requirements.</p> <p>3.3. Joining process is undertaken according to workplace procedures or industry practice.</p> <p>3.4. Adhesives are applied according to standard operating procedures (SOPs) and/or manufacturers' instructions.</p> <p>3.5. Work is fitted according to SOPs.</p> <p>3.6. Dyes or stains for colouring (if required) are applied.</p> <p>3.7. Work is checked against required quality standards and any non-conformity with the required quality standards is rectified.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finalise operation	<ul style="list-style-type: none">4.1. Faulty and/or defective equipment is tagged and reported in accordance with SOPs.4.2. Finishing of surfaces is completed by hand/machine to meet SOPs.4.3. Item is inspected and any imperfections are rectified following SOPs.4.4. Completed work is checked against required quality standard.4.5. Work area is cleaned, hand and/or power tools and equipment is cleaned, maintained and stored in accordance with SOPs.4.6. Machinery is cleaned and left in a safe mode.4.7. Off-cuts and unused materials are collected and stored for re-use or disposal following SOPs.4.8. Waste and scrap materials are dealt with following SOPs.

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - convey ideas and information
 - work with supervisor, other workers and customers
 - report work outcomes and problems
 - clarify and confirm work requirements and specifications
 - work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity.
- Literacy skills to:
 - read and comprehend the content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Writing skills to:
 - complete work documents
 - complete job sheet
 - accurately record and maintain information relating to machining material.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to the construction and application of decorative treatments and finishes to musical instruments
 - efficiently manage self-responsibilities and timelines for completion of work
 - initiate new ideas or work methodologies
 - recognise and respond to circumstances outside instructions or personal competence
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of manufacturing process
 - plan own work within the given task parameters.
- Technology skills to:
 - use and maintain relevant tools, machinery and equipment in the construction and application of decorative treatments and finishes to musical instruments
 - efficiently and safely machine material
 - identify problems and equipment faults and demonstrate appropriate response procedures.

Required knowledge

- Legislation and procedures:
 - State or territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment and procedures for their safe use, operation and maintenance
 - Characteristics of timber, timber products and defects
 - Set up and operation of equipment
 - Computer programs
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling in the construction of decorative treatments and finishes for musical instruments
 - Appropriate mathematical procedures for estimation and measurement.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of:
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals

Organisational requirements may include:
(Continued)

- quality and continuous improvement processes and standards
- OH&S/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Equipment and tools may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills

Equipment and tools may include:
(Continued)

- air compressor and hoses
- clamps
- screwdrivers
- pincers.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential
 - Read and interpret a work/job specification
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Plan, prepare and complete construction and application of decorative treatments and finishes to musical instruments.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials and equipment relevant to the construction and application of decorative treatments and finishes to musical instruments
 - specifications and work instructions.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following example are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to decorative treatments and finishes to musical instruments
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolio of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21821 Develop and update music products industry knowledge

Unit Descriptor This unit describes the performance outcomes, skills and knowledge required to develop and update current information on the music products industry, including industry structure, technology and key issues that must be considered and applied by music industry personnel in their day-to-day work. The unit focuses on the ability to source and comprehend general music product industry information.

Employability Skills This unit contains employability skills.

Pre-requisite unit(s) Nil.

Application of the Unit This unit applies to individuals working within the music industry product sector, in any location and for any music industry organisation type.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

1. Source and apply general information on the structure and operation of the music products industry

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- 1.1. Reliable ***sources of information*** are identified to understand the structure and operation of the ***music products industry***.
- 1.2. ***Information*** on current and emerging ***technologies*** that impact on music products industry operations are sourced and accessed.

ELEMENT	PERFORMANCE CRITERIA
	<ul style="list-style-type: none">1.3. The potential effects of different technologies on the music products industry operations are identified.1.4. Knowledge of the music products industry is used to enhance work performance.1.5. Current issues of concern to the industry are monitored.1.6. Updated information is shared with colleagues, according to organisational procedures, and incorporated into day-to-day work activities.
2. Source and apply information on legal and ethical issues that impact on the music products	<ul style="list-style-type: none">2.1. Information on legal and ethical issues to assist effective work performance is sourced.2.2. Day-to-day activities are conducted according to legal obligations and ethical industry practices.

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Research skills to:
 - identify, interpret and sort relevant information.
- Communication skills to:
 - actively listen and question to obtain information and to provide a verbal summary of information.
- Literacy skills to:
 - read and comprehend the content of plain English information documents about legal issues, industry accreditation schemes and codes of conduct.
- Writing skills to:
 - note take, summarise and record information in basic documents such as information sheets, portfolios and files.

Required knowledge

- Industry profile:
 - Primary functions of the major cross-industry and sector-specific industry businesses, bodies and associations
 - Legal and environmental issues and ethical work practices
 - Instrument manufacturing processes
 - Instrument repair processes
 - Emerging technologies and its effect on the music products industry.
- Industry labour market profile:
 - Industry employment categories, types and career pathways
 - Staff roles and responsibilities related to quality assurance processes.
- State, territory and local council laws:
 - Occupational health and safety and workers compensation
 - Workplace relations
 - Environmental protection.
- Licensing, codes of conduct and industry accreditation schemes.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Sources of information may include:

- media
- reference books
- legislation or plain English legal publications
- libraries
- unions
- industry associations and organisations
- industry journals
- computer data, including internet
- personal observations and experience
- informal discussions and networking with colleagues
- industry seminars
- training courses
- music facilities and events
- industry accreditation schemes
- industry codes of conduct or ethics.

The **music products industry** may include:

- manufacture
- retail
- wholesale
- industry associations, councils, taskforces, research bodies.

Information may include:

- economic and social factors related to:
 - employment
 - protection of natural and cultural integrity
 - scale and use of local amenities and facilities
 - prevalence/role of music in the community
- different music markets and their relevance to industry sectors
- relationships between music and other industries, including:
 - retail
 - performing arts
- different sectors and businesses within the industry, their interrelationships and the services available in each sector
- major music industry bodies and associations
- environmental issues:
 - minimal impact operations
 - environmental sustainability
 - waste management
 - energy-efficient operations
 - land ownership
 - land access and usage
- industrial relations
- local and regional industry
- career opportunities within the industry
- roles and responsibilities of individual staff members in a successful music business, including ethical practices and quality assurance.

Technologies may include:

- ultra violet curing processes
- project management systems
- computer-aided design (CAD) systems.

Enhance work performance may include:

- making contacts with networks for obtaining key information to develop, deliver and improve operations
- suggesting new and improved work practices
- performing work duties within legal, ethical and social guidelines
- improving skills, knowledge and productivity to improve music industry operations by accessing and attending industry professional development courses or activities.

Issues may include:

- organisational profitability
- prevalence of industry initiatives
- availability of government initiatives
- emerging markets
- environmental and social factors
- labour market constraints
- industry expansion or retraction
- copyright and plagiarism.

Legal and ethical issues may include:

- consumer protection
- Equal Employment Opportunity (EEO)
- anti-discrimination
- workplace relations
- public liability and duty of care
- licensing
- copyright and patents
- environmental protection
- risk management
- OHS/WHs.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Ability to source and updated music product industry information, in particular manufacturing and instrument repair and apply this to day-to-day activities to maximise performance in specific music sector contexts
 - Ability to source information on emerging technologies and identify their potential effects on the music products industry
 - Information on legal issues that may inform ethical work practices is sourced and applied in day-to-day activities to maximise performance in the sector.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated environment
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements.

The following resources should be made available:

- access to digital technology to obtain information
- access to information sources in order to conduct research and collect sufficient information
- access to industry association membership information, codes of conduct and accreditation information
- access to plain English documents that describe key music manufacture, repair and general workplace legislation.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - project activities that allow the candidate to demonstrate the application of knowledge to specific music industry contexts and situations
 - case studies and problem-solving exercises to assess application of knowledge to different situations and contexts
 - written and oral questioning or interview to test knowledge of different sectors of the music products industry and their interrelationships, the key content of legislation and industry codes of conduct
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21812 Maintain and service acoustic guitars

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to maintain and service standard (non-vintage) and period acoustic guitars.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in a music instrument service and maintenance organisation. The maintenance and service of acoustic guitars applies to a known workplace environment with established parameters. It involves following instructions for routine maintenance and service, the application of skills and knowledge within familiar activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

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|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Prepare for maintenance and service of acoustic guitars</p> | <p>1.1. Customer requirements are received and confirmed with supervisor for guitar <i>maintenance and service</i>.</p> <p>1.2. <i>Work order</i> is read and confirmed with supervisor.</p> <p>1.3. Safety equipment, <i>tools</i> and <i>materials</i> are identified and obtained for guitar maintenance and service.</p> <p>1.4. Work area is inspected and prepared in consultation with supervisor.</p> <p>1.5. Relevant <i>Occupational Health and Safety (OHS)/ Work Health and Safety (WHS)</i>, legislative and organisational requirements for the maintenance and service of acoustic guitars are verified and compiled with.</p> |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Maintain and service acoustic guitars	<p>2.1. Acoustic guitar is cleaned and inspected according to standard operating procedures (SOPs).</p> <p>2.2. Maintenance and service requirements are determined in accordance with customer and SOPs.</p> <p>2.3. Maintenance and service inspection outcomes are reported to appropriate personnel.</p> <p>2.4. Appropriate maintenance and service tools and materials are selected and used according to SOPs.</p> <p>2.5. Maintenance and service of acoustic guitar is undertaken in accordance with customer requirements and SOPs.</p> <p>2.6. Advice and assistance is sought from others as required.</p>
3. Finish surfaces	<p>3.1. Prepare and assemble surface finish material and tools in accordance with manufacturer specification and SOPs.</p> <p>3.2. Acoustic guitar surface is prepared for finishing under supervision.</p> <p>3.3. Acoustic guitar surface is finished under supervision and in accordance with customer specification and SOPs.</p> <p>3.4. Checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Waste is disposed of in accordance with SOPs.</p>
4. Finalise maintenance and service processes	<p>4.1. Final checks and tests of the quality of the acoustic guitar maintenance and service are undertaken with supervisor in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>4.2. All tools, equipment and re-usable items are cleaned, returned and secured according to SOPs.</p> <p>4.3. Maintenance and service records are completed and verified by supervisor.</p> <p>4.4. Maintenance and service records are stored in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy and numeracy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Writing skills to:
 - complete basic work documents
 - maintain quality records related to instrument maintenance and service.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to acoustic guitars
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - plan own work within the given task parameters.
- Problem solving skills to:
 - identify faults in timber and/or maintenance and service components.
- Technology skills to:
 - use instrument making tools and materials to maintain and service acoustic guitars
 - apply maintenance and service techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for maintaining and servicing acoustic guitars
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment required for maintenance and service of acoustic guitars
 - Types of materials that can be used in the service and maintenance of an acoustic guitar
 - Basic characteristics of timber, timber products and defects
 - Basic knowledge of staining and finishing materials relevant to acoustic guitars
 - Basic glue chemistry and its effect on acoustic guitar components and finished surfaces
 - Effect of soft soldering on materials and components
 - Procedures for rectifying minor defects in soldered joints
 - Basic properties of ferrous and non-ferrous materials
 - Hazard and emergency procedures in maintaining and servicing an acoustic guitar
 - Reporting requirements and procedures in the servicing and maintenance of acoustic guitars.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Maintenance and service may include:

- string replacement
- refinish of minor scratch on surface
- hand polish
- tuning
- basic rectifications of a non-structural nature.

Work order may relate to:

- job requirements including:
 - surface design
 - tolerances
 - process
 - materials
 - finish
 - quantity.

Tools may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers

Tools may include:
(Continued)

- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness planes.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments.

OHS/WHS requirements
may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of :
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finishing may include:

- painting
- raw finishing.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Confirm with supervisor customer requirements and work order
 - Communicate effectively and work safely with others in the work area
 - Prepare for, maintain and service of an acoustic guitar
 - Complete surface finish of an acoustic guitar
 - Record the maintenance and service task.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the maintenance and service of acoustic guitars
 - specifications and work instructions
 - an acoustic guitar.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to guitar maintenance and servicing
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21815 Maintain and service brass instruments

Unit Descriptor This unit describes the performance outcomes, skills and knowledge required to maintain and service brass instruments.

Employability Skills This unit contains employability skills.

Pre-requisite unit(s) Nil.

Application of the Unit This unit supports the attainment of skills and knowledge required for competent workplace performance in a music instrument service and maintenance organisation. The maintenance and service of brass instruments applies to a known workplace environment with established parameters. It involves following instructions for routine maintenance and service, the application of skills and knowledge within familiar activities and exercising limited responsibility.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

1. Prepare for maintenance and service of brass instruments

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- 1.1. Customer requirements are received and confirmed with supervisor for brass instrument ***maintenance and service***.
- 1.2. ***Work order*** is read and confirmed with supervisor.
- 1.3. Safety equipment, ***tools*** and ***materials*** are identified and obtained for brass instrument maintenance and service.
- 1.4. Work area is inspected and prepared in consultation with supervisor.
- 1.5. Relevant ***Occupational Health and Safety (OHS)/ Work Health and Safety (WHS)***, legislative and organisational requirements for the maintenance and service of brass instruments are verified and complied with.

ELEMENT	PERFORMANCE CRITERIA
2. Maintain and service brass instruments	<p>2.1. Brass instrument is cleaned and inspected according to <i>standard operating procedures (SOPs)</i>.</p> <p>2.2. Maintenance and service requirements are determined in accordance with customer and SOPs.</p> <p>2.3. Maintenance and service inspection outcomes are reported to appropriate personnel.</p> <p>2.4. Appropriate maintenance and service tools and materials are selected and used according to SOPs.</p> <p>2.5. Maintenance and service of brass instrument is undertaken in accordance with customer requirements and SOPs.</p> <p>2.6. Advice and assistance is sought from others as required.</p>
3. Finish surfaces	<p>3.1. Prepare and assemble <i>surface finish material</i> and tools in accordance with manufacturer specification and SOPs.</p> <p>3.2. Brass instrument surface is prepared for <i>finishing</i> under supervision.</p> <p>3.3. Brass instrument surface is finished under supervision and in accordance with customer specification and SOPs.</p> <p>3.4. Checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Waste is disposed of in accordance with SOPs.</p>
4. Finalise maintenance and service processes	<p>4.1. Final checks and tests of the quality of the brass instrument maintenance and service are undertaken with supervisor in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>4.2. All tools, equipment and re-usable items are cleaned, returned and secured according to SOPs.</p> <p>4.3. Maintenance and service records are completed and verified by supervisor.</p> <p>4.4. Maintenance and service records are stored in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy and numeracy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Writing skills to:
 - complete basic work documents
 - maintain quality records related to instrument maintenance and service.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to brass instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - plan own work within the given task parameters.
- Problem solving skills to:
 - identify faults in metal and/or maintenance and service components.
- Technology skills to:
 - use instrument making tools and materials to maintain and service brass instruments
 - apply maintenance and service techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for maintaining and servicing brass instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment required for maintenance and service of brass instruments
 - Types of materials that can be used in the maintenance and service of brass instruments
 - Basic characteristics of metal products and defects
 - Basic knowledge of staining materials relevant to brass instruments
 - Basic glue chemistry and its effect on brass instrument components and finished surfaces
 - Effect of soft soldering on materials and components
 - Procedures for rectifying minor defects in soldered joints
 - Basic properties of ferrous and non-ferrous materials
 - Hazard and emergency procedures in maintaining and servicing a brass instrument
 - Reporting requirements and procedures in the servicing and maintenance of brass instruments.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Maintenance and service may include:

- lubrication of bearings and linkage
- greasing of slides
- oiling rotary valves
- cleaning valve casings and tuning slide
- basic rectifications of a non-structural nature.

Work order may relate to:

- job requirements including:
 - surface design
 - tolerances
 - process
 - materials
 - finish
 - quantity.

Tools may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers.

Materials may include:

- metals
- veneers
- glues
- screws
- nails
- various metals that are traditionally used in these instruments.

OHS/WHs requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of :
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards

Standard operating procedures (SOPs) may include:

- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finishing may include:

- painting
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Confirm customer requirements and work order
 - Communicate effectively and work safely with others in the work area
 - Prepare for, maintain and service of a brass instrument
 - Complete surface finish of a brass instrument
 - Record the maintenance and service task.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the maintenance and service of brass instruments
 - specifications and work instructions
 - a brass instrument.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to brass instrument maintenance and servicing
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21813 Maintain and service electric guitars

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to maintain and service standard (non-vintage) electric guitars.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in a music instrument service and maintenance organisation. The maintenance and service of electric guitars applies to a known workplace environment with established parameters. It involves following instructions for routine electric guitar maintenance and service, the application of skills and knowledge within familiar activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

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| <p>1. Prepare for maintenance and service of electric guitars</p> | <p>1.1. Customer requirements are received and confirmed with supervisor for guitar <i>maintenance and service</i>.</p> <p>1.2. <i>Work order</i> is read and confirmed with supervisor.</p> <p>1.3. Safety equipment, <i>tools</i> and <i>materials</i> are identified and obtained for guitar maintenance and service.</p> <p>1.4. Work area is inspected and prepared in consultation with supervisor.</p> <p>1.5. Relevant <i>Occupational Health and Safety (OHS)/ Work Health and Safety (WHS)</i>, legislative and organisational requirements for the maintenance and service of electric guitars are verified and compiled with.</p> |
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ELEMENT	PERFORMANCE CRITERIA
2. Maintain and service electric guitars	<p>2.1. Electric guitar is cleaned and inspected according to <i>standard operating procedures (SOPs)</i>.</p> <p>2.2. Maintenance and service requirements are determined in accordance with customer and SOPs.</p> <p>2.3. Maintenance and service inspection outcomes are reported to appropriate personnel.</p> <p>2.4. Appropriate maintenance and service tools and materials are selected and used according to SOPs.</p> <p>2.5. Maintenance and service of electric guitar is undertaken in accordance with customer requirements and SOPs.</p> <p>2.6. Advice and assistance is sought from others as required.</p>
3. Finish surfaces	<p>3.1. Prepare and assemble <i>surface finish material</i> and tools in accordance with manufacturer specification and SOPs.</p> <p>3.2. Electric guitar surface is prepared for <i>finishing</i> under supervision.</p> <p>3.3. Electric guitar surface is finished under supervision and in accordance with customer specification and SOPs.</p> <p>3.4. Checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Waste is disposed of in accordance with SOPs.</p>
4. Finalise maintenance and service processes	<p>4.1. Final checks and tests of the quality of the electric guitar maintenance and service are undertaken with supervisor in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>4.2. All tools, equipment and re-usable items are cleaned, returned and secured according to SOPs.</p> <p>4.3. Maintenance and service records are completed and verified by supervisor.</p> <p>4.4. Maintenance and service records are stored in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy and numeracy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Writing skills to:
 - complete basic work documents
 - maintain quality records related to instrument maintenance and service.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to electric guitars
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - plan own work within the given task parameters.
- Problem solving skills to:
 - identify faults in timber and/or maintenance and service components.
- Technology skills to:
 - use instrument making tools and materials to maintain and service electric guitars
 - apply maintenance and service techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to the full range of processes for maintaining and servicing electric guitars
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment required for maintenance and service of electric guitars
 - Types of materials that can be used in the service and maintenance of an electric guitar
 - Basic characteristics of timber, timber products and defects
 - Basic knowledge of staining and finishing materials relevant to electric guitars.
 - Basic glue chemistry and its effect on electric guitar components and finished surfaces
 - Effect of soft soldering on materials and components
 - Procedures for rectifying minor defects in soldered joints
 - Basic properties of ferrous and non-ferrous materials
 - Hazard and emergency procedures in maintaining and servicing an electric guitar
 - Reporting requirements and procedures in the servicing and maintenance of electric guitars.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Maintenance and service may include:

- string replacement
- refinish of minor scratch on surface
- hand polish
- tuning
- basic rectifications of a non-structural nature.

Work order may relate to:

- job requirements including:
 - surface design
 - tolerances
 - process
 - materials
 - finish
 - quantity.

Tools may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers

Tools may include:
(Continued)

- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments.

OHS/WHS requirements
may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of :
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finishing may include:

- painting
- raw finishing.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Confirm with supervisor customer requirements and work order
 - Communicate effectively and work safely with others in the work area
 - Prepare for, maintain and service of an electric guitar
 - Complete surface finish of an electric guitar
 - Record the maintenance and service task.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the maintenance and service of electric guitars
 - specifications and work instructions
 - an electric guitar.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to guitar maintenance and servicing
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21814 Maintain and service percussion instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to maintain and service percussion instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in a music instrument service and maintenance organisation. The maintenance and service of percussion instruments applies to a known workplace environment with established parameters. It involves following instructions for routine maintenance and service, the application of skills and knowledge within familiar activities and exercising limited responsibility.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

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|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Prepare for maintenance and service of percussion instruments</p> | <p>1.1. Customer requirements are received and confirmed with supervisor for percussion instrument <i>maintenance and service</i>.</p> <p>1.2. <i>Work order</i> is read and confirmed with supervisor.</p> <p>1.3. Safety equipment, <i>tools</i> and <i>materials</i> are identified and obtained for percussion instrument maintenance and service.</p> <p>1.4. Work area is inspected and prepared in consultation with supervisor.</p> <p>1.5. Relevant <i>Occupational Health and Safety (OHS)/ Work Health and Safety (WHS)</i>, legislative and organisational requirements for the maintenance and service of percussion instruments are verified and complied with.</p> |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Maintain and service percussion instruments	<p>2.1. Percussion instrument is cleaned and inspected according to standard operating procedures (SOPs).</p> <p>2.2. Maintenance and service requirements are determined in accordance with customer and SOPs.</p> <p>2.3. Maintenance and service inspection outcomes are reported to appropriate personnel.</p> <p>2.4. Appropriate maintenance and service tools and materials are selected and used according to SOPs.</p> <p>2.5. Maintenance and service of percussion instrument is undertaken in accordance with customer requirements and SOPs.</p> <p>2.6. Advice and assistance is sought from others as required.</p>
3. Finish surfaces	<p>3.1. Prepare and assemble surface finish material and tools in accordance with manufacturer specification and SOPs.</p> <p>3.2. Percussion instrument surface is prepared for finishing under supervision.</p> <p>3.3. Percussion instrument surface is finished under supervision and in accordance with customer specification and SOPs.</p> <p>3.4. Checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Waste is disposed of in accordance with SOPs.</p>
4. Finalise maintenance and service processes	<p>4.1. Final checks and tests of the quality of the percussion instrument maintenance and service are undertaken with supervisor in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>4.2. All tools, equipment and re-usable items are cleaned, returned and secured according to SOPs.</p> <p>4.3. Maintenance and service records are completed and verified by supervisor.</p> <p>4.4. Maintenance and service records are stored in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy and numeracy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Writing skills to:
 - complete basic work documents
 - maintain quality records related to instrument maintenance and service.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to percussion instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - plan own work within the given task parameters.
- Problem solving skills to:
 - identify faults in metal and/or maintenance and service components.
- Technology skills to:
 - use instrument making tools and materials to maintain and service percussion instruments
 - apply maintenance and service techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for maintaining and servicing percussion instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment required for maintenance and service of percussion instruments
 - Types of materials that can be used in the maintenance and service of percussion instruments
 - Basic characteristics of material products and defects
 - Basic knowledge of staining materials relevant to percussion instruments
 - Basic chemistry of adhesives and its effect on percussion instrument components and finished surfaces
 - Effect of soft soldering on materials and components
 - Procedures for rectifying minor defects in soldered joints
 - Basic properties of ferrous and non-ferrous materials
 - Hazard and emergency procedures in maintaining and servicing a percussion instrument
 - Reporting requirements and procedures in the servicing and maintenance of percussion instruments.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Maintenance and service may include:

- cleaning and oiling metal surfaces
- oiling bolts, screw, strainers and other moving parts
- tensioning drum heads
- basic rectifications of a non-structural nature.

Work order may relate to:

- job requirements including:
 - surface design
 - tolerances
 - process
 - materials
 - finish
 - quantity.

Tools may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers.

Materials may include:

- metals
- plastics
- skins (natural and synthetic)
- veneers
- electroplating materials
- glues
- screws
- nails
- dowels
- various timbers/metals that are traditionally used in these instruments.

OHS/WHs requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of :
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility

Standard operating procedures (SOPs) may include:

- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finishing may include:

- electroplating
- painting
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Confirm customer requirements and work order
 - Communicate effectively and work safely with others in the work area
 - Prepare for, maintain and service of a percussion instrument
 - Complete surface finish of a percussion instrument
 - Record the maintenance and service task.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the maintenance and service of percussion instruments
 - specifications and work instructions
 - a percussion instrument.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to percussion instrument maintenance and servicing
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21817 Maintain and service special stringed instruments

Unit Descriptor This unit describes the performance outcomes, skills and knowledge required to maintain and service special stringed instruments.

Employability Skills This unit contains employability skills.

Pre-requisite unit(s) Nil

Application of the Unit This unit supports the attainment of skills and knowledge required for competent workplace performance in a music instrument service and maintenance organisation. The maintenance and service of special stringed instruments applies to a known workplace environment with established parameters. It involves following instructions for routine special stringed instrument maintenance and service, the application of skills and knowledge within familiar activities and exercising limited responsibility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Prepare for maintenance and service of special stringed instruments</p> | <p>1.1. Customer requirements are received and confirmed with supervisor for special stringed instrument <i>maintenance and service</i>.</p> <p>1.2. <i>Work order</i> is read and confirmed with supervisor.</p> <p>1.3. Safety equipment, <i>tools</i> and <i>materials</i> are identified and obtained for special stringed instrument maintenance and service.</p> <p>1.4. Work area is inspected and prepared in consultation with supervisor.</p> <p>1.5. Relevant <i>Occupational Health and Safety (OHS)/ Work Health and Safety (WHS)</i>, legislative and organisational requirements for the maintenance and service of special stringed instruments verified and compiled with.</p> |
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ELEMENT	PERFORMANCE CRITERIA
2. Maintain and service special stringed instruments	<p>2.1. Special stringed instrument is cleaned and inspected according to standard operating procedures (SOPs).</p> <p>2.2. Maintenance and service requirements are determined in accordance with customer and SOPs.</p> <p>2.3. Maintenance and service inspection outcomes are reported to appropriate personnel.</p> <p>2.4. Appropriate maintenance and service tools and materials are selected and used according to SOPs.</p> <p>2.5. Maintenance and service of special stringed instrument is undertaken in accordance with customer requirements and SOPs.</p> <p>2.6. Advice and assistance is sought from others as required.</p>
3. Finish surfaces	<p>3.1. Prepare and assemble surface finish material and tools in accordance with manufacturer specification and SOPs.</p> <p>3.2. Special stringed instrument surface is prepared for finishing under supervision.</p> <p>3.3. Special stringed instrument surface is finished under supervision and in accordance with customer specification and SOPs.</p> <p>3.4. Checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Waste is disposed in accordance with SOPs.</p>
4. Finalise maintenance and service processes	<p>4.1. Final checks and tests of the quality of the special stringed instrument maintenance and service are undertaken with supervisor in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>4.2. All tools, equipment and re-usable items are cleaned, returned and secured according to SOPs.</p> <p>4.3. Maintenance and service records are completed and verified by supervisor.</p> <p>4.4. Maintenance and service records are stored in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy and numeracy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Writing skills to:
 - complete basic work documents
 - maintain quality records related to instrument maintenance and service.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to special stringed instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - plan own work within the given task parameters.
- Problem solving skills to:
 - identify faults in timber and/or maintenance and service components.
- Technology skills to:
 - use instrument making tools and materials to maintain and service special stringed instruments
 - apply maintenance and service techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to the full range of processes for maintaining and servicing special stringed instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.

Problem identification and resolution within job parameters:

- Types of tools and equipment required for maintenance and service of special stringed instruments
- Types of materials that can be used in the service and maintenance of special stringed instruments
- Basic characteristics of timber, timber products and defects
- Basic knowledge of staining and finishing materials relevant to special stringed instruments
- Basic glue chemistry and its effect on special stringed instrument components and finished surfaces
- Effect of soft soldering on materials and components
- Procedures for rectifying minor defects in soldered joints
- Basic properties of ferrous and non-ferrous materials
- Hazard and emergency procedures in maintaining and servicing a special stringed instrument
- Reporting requirements and procedures in the servicing and maintenance of special stringed instruments.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Maintenance and service may include:

- string replacement
- refinish of minor scratch on surface
- hand polish
- tuning
- basic rectifications of a non-structural nature.

Work order may relate to:

- job requirements including:
 - surface design
 - tolerances
 - process
 - materials
 - finish
 - quantity.

Tools may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers

Tools may include:
(Continued)

- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness planes.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments.

OHS/WHS requirements
may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of :
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finishing may include:

- painting
- raw finishing.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Confirm with supervisor customer requirements and work order
 - Communicate effectively and work safely with others in the work area
 - Prepare for, maintain and service of a special stringed instrument
 - Complete surface finish of a special stringed instrument
 - Record the maintenance and service task.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the maintenance and service of special stringed instruments
 - specifications and work instructions
 - a special stringed instrument.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to special stringed instrument maintenance and servicing
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21816 Maintain and service stringed instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to maintain and service stringed instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in a music instrument service and maintenance organisation. The maintenance and service of stringed instruments applies to a known workplace environment with established parameters. It involves following instructions for routine stringed instrument maintenance and service, the application of skills and knowledge within familiar activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

1. Prepare for maintenance and service of stringed instruments

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- 1.1. Customer requirements are received and confirmed with supervisor for stringed instrument ***maintenance and service***.
- 1.2. ***Work order*** is read and confirmed with supervisor.
- 1.3. Safety equipment, ***tools*** and ***materials*** are identified and obtained for stringed instrument maintenance and service.
- 1.4. Work area is inspected and prepared in consultation with supervisor.
- 1.5. Relevant ***Occupational Health and Safety (OHS)/Work Health and Safety (WHS)***, legislative and organisational requirements for the maintenance and service of stringed instruments are verified and complied with.

ELEMENT	PERFORMANCE CRITERIA
2. Maintain and service stringed instruments	<p>2.1. Stringed instrument is cleaned and inspected according to <i>standard operating procedures (SOPs)</i>.</p> <p>2.2. Maintenance and service requirements are determined in accordance with customer and SOPs.</p> <p>2.3. Maintenance and service inspection outcomes are reported to appropriate personnel.</p> <p>2.4. Appropriate maintenance and service tools and materials are selected and used according to SOPs.</p> <p>2.5. Maintenance and service of stringed instrument is undertaken in accordance with customer requirements and SOPs.</p> <p>2.6. Advice and assistance is sought from others as required.</p>
3. Finish surfaces	<p>3.1. Prepare and assemble <i>surface finish material</i> and tools in accordance with manufacturer specification and SOPs.</p> <p>3.2. Stringed instrument surface is prepared for <i>finishing</i> under supervision.</p> <p>3.3. Stringed instrument surface is finished under supervision and in accordance with customer specification and SOPs.</p> <p>3.4. Checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Waste is disposed of in accordance with SOPs.</p>
4. Finalise maintenance and service processes	<p>4.1. Final checks and tests of the quality of the stringed instrument maintenance and service are undertaken with supervisor in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>4.2. All tools, equipment and re-usable items are cleaned, returned and secured according to SOPs.</p> <p>4.3. Maintenance and service records are completed and verified by supervisor.</p> <p>4.4. Maintenance and service records are stored in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy and numeracy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Writing skills to:
 - complete basic work documents
 - maintain quality records related to instrument maintenance and service.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to stringed instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - plan own work within the given task parameters.
- Problem solving skills to:
 - identify faults in timber and/or maintenance and service components.
- Technology skills to:
 - use instrument making tools and materials to maintain and service stringed instruments
 - apply maintenance and service techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to the full range of processes for maintaining and servicing stringed instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment required for maintenance and service of stringed instruments
 - Types of materials that can be used in the service and maintenance of stringed instruments
 - Basic characteristics of timber, timber products and defects
 - Basic knowledge of staining and finishing materials relevant to stringed instruments
 - Basic glue chemistry and its effect on stringed instrument components and finished surfaces
 - Effect of soft soldering on materials and components
 - Procedures for rectifying minor defects in soldered joints
 - Basic properties of ferrous and non-ferrous materials
 - Hazard and emergency procedures in maintaining and servicing a stringed instrument
 - Reporting requirements and procedures in the servicing and maintenance of stringed instruments.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Maintenance and service may include:

- string replacement
- refinish of minor scratch on surface
- hand polish
- tuning
- basic rectifications of a non-structural nature.

Work order may relate to:

- job requirements including:
 - surface design
 - tolerances
 - process
 - materials
 - finish
 - quantity.

Tools may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers

Tools may include:
(Continued)

- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness planes.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments.

OHS/WHS requirements
may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of :
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finishing may include:

- painting
- raw finishing.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Confirm with supervisor customer requirements and work order
 - Communicate effectively and work safely with others in the work area
 - Prepare for, maintain and service of a stringed instrument
 - Complete surface finish of a stringed instrument
 - Record the maintenance and service task.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the maintenance and service of stringed instruments
 - specifications and work instructions
 - a stringed instrument.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to stringed instrument maintenance and servicing
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21818 Maintain and service woodwind instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to maintain and service woodwind instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in a music instrument service and maintenance organisation. The maintenance and service of woodwind instruments applies to a known workplace environment with established parameters. It involves following instructions for routine maintenance and service, the application of skills and knowledge within familiar activities and exercising limited responsibility.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Prepare for maintenance and service of woodwind instruments</p> | <p>1.1. Customer requirements are received and confirmed with supervisor for woodwind instrument <i>maintenance and service</i>.</p> <p>1.2. <i>Work order</i> is read and confirmed with supervisor.</p> <p>1.3. Safety equipment, <i>tools</i> and <i>materials</i> are identified and obtained for woodwind instrument maintenance and service.</p> <p>1.4. Work area is inspected and prepare in consultation with supervisor.</p> <p>1.5. Relevant <i>Occupational Health and Safety (OHS)/ Work Health and Safety (WHS)</i>, legislative and organisational requirements for the maintenance and service of woodwind instruments are verified and complied with.</p> |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Maintain and service woodwind instruments	<p>2.1. Woodwind instrument is cleaned and inspected according to standard operating procedures (SOPs).</p> <p>2.2. Maintenance and service requirements are determined in accordance with customer and SOPs.</p> <p>2.3. Maintenance and service inspection outcomes are reported to appropriate personnel.</p> <p>2.4. Appropriate maintenance and service tools and materials are selected and used according to SOPs</p> <p>2.5. Maintenance and service of woodwind instrument is undertaken in accordance with customer requirements and SOPs.</p> <p>2.6. Advice and assistance is sought from others as required.</p>
3. Finish surfaces	<p>3.1. Prepare and assemble surface finish material and tools in accordance with manufacturer specification and SOPs.</p> <p>3.2. Woodwind instrument surface is prepared for finishing under supervision.</p> <p>3.3. Woodwind instrument surface is finished under supervision and in accordance with customer specification and SOPs.</p> <p>3.4. Checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Waste is disposed of in accordance with SOPs.</p>
4. Finalise maintenance and service processes	<p>4.1. Final checks and tests of the quality of the woodwind instrument maintenance and service are undertaken with supervisor in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>4.2. All tools, equipment and re-usable items are cleaned, returned and secured according to SOPs.</p> <p>4.3. Maintenance and service records are completed and verified by supervisor.</p> <p>4.4. Maintenance and service records are stored in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy and numeracy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Writing skills to:
 - complete basic work documents
 - maintain quality records related to instrument maintenance and service.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to woodwind instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - plan own work within the given task parameters.
- Problem solving skills to:
 - identify faults in timber/metal and/or maintenance and service components.
- Technology skills to:
 - use instrument making tools and materials to maintain and service woodwind instruments
 - apply maintenance and service techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for maintaining and servicing woodwind instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment required for maintenance and service of woodwind instruments
 - Types of materials that can be used in the maintenance and service of woodwind instruments
 - Basic characteristics of timber, timber products and defects
 - Basic characteristics of metals, metal products and defects
 - Basic knowledge of staining and finishing materials relevant to woodwind instruments
 - Basic glue chemistry and its effect on woodwind instrument components and finished surfaces
 - Effect of soft soldering on materials and components
 - Procedures for rectifying minor defects in soldered joints
 - Basic properties of ferrous and non-ferrous materials
 - Hazard and emergency procedures in maintaining and servicing a woodwind instrument
 - Reporting requirements and procedures in the servicing and maintenance of woodwind instruments.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Maintenance and service may include:

- minor surface refinishing
- cleaning
- tuning
- basic rectifications of a non-structural nature.

Work order may relate to:

- job requirements including:
 - surface design
 - tolerances
 - process
 - materials
 - finish
 - quantity.

Tools may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments.

OHS/WHs requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of :
 - personal protective equipment (PPE) and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finishing may include:

- painting
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Confirm customer requirements and work order
 - Communicate effectively and work safely with others in the work area
 - Prepare for, maintain and service of a woodwind instrument
 - Complete surface finish of a woodwind instrument
 - Record the maintenance and service task.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the maintenance and service of woodwind instruments
 - specifications and work instructions
 - a woodwind instrument.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to woodwind instrument maintenance and servicing
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21804 Make acoustic guitars

Unit Descriptor This unit describes the performance outcomes, skills and knowledge required to make a standard (non-vintage) acoustic guitar from a given design brief.

Employability Skills This unit contains employability skills.

Pre-requisite unit(s) Nil

Application of the Unit This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument making organisations of all sizes. The making of acoustic guitars applies to a known workplace environment with established parameters. It involves following instructions for assembling components to make an acoustic guitar, the application of skills and knowledge within routine activities and exercising limited responsibility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

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| <p>1. Interpret and confirm design brief with supervisor.</p> | <p>1.1. The supplied <i>design brief</i> is read and interpreted.</p> <p>1.2. Job requirements to meet the design brief are communicated and confirmed with supervisor.</p> <p>1.3. The required <i>tools and equipment</i> according to the design brief are clarified with supervisor.</p> <p>1.4. The required <i>materials</i> and <i>components/sub-assemblies</i> according to the design brief are clarified with supervisor.</p> <p>1.5. Assembly sequence is confirmed with supervisor.</p> |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare to assemble equipment and components	<p>2.1. Assembly tools and equipment are selected according to instructions or job requirements and used to standard operating procedures (SOPs).</p> <p>2.2. Components/sub-assemblies are obtained and arranged for assembly.</p> <p>2.3. Missing components are identified according to the design brief.</p> <p>2.4. Materials appropriate to acoustic guitar making are obtained to ensure they are prepared, safely handled and located ready for use.</p> <p>2.5. Appropriate personal protective equipment (PPE) is selected in accordance with SOPs.</p> <p>2.6. Environmental workplace considerations and measures are identified and applied to reduce noise, dust and obstacles.</p>
3. Assemble components	<p>3.1. Components are roughed out as required, according to instruction.</p> <p>3.2. Materials are cut, formed, aligned, joined and soldered in accordance with professional standards and SOPs.</p> <p>3.3. Components are laid out and assembled using appropriate fastenings.</p> <p>3.4. Fixing and joining devices are used in accordance with types of materials to be joined and work instructions.</p> <p>3.5. Assembly is produced following correct sequence of operations using selected equipment to SOPs.</p> <p>3.6. Assembly is tested/checked for compliance to job requirements, following SOPs.</p> <p>3.7. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage, for supervisor inspection.</p> <p>3.8. Occupational Health and Safety (OHS)/ Work Health and Safety (WHS) and legislative requirements are complied with at all times.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish material and tools are prepared and assembled in accordance with manufacturer specification and SOPs.</p> <p>4.2. Acoustic guitar surface is prepared for finishing.</p> <p>4.3. Acoustic guitar surface is finished in accordance with customer specification and SOPs.</p> <p>4.4. On-going checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p>
5. Finalise making process	<p>5.1. Final checks and tests of the quality of the acoustic guitar are undertaken with supervisor in accordance with specifications, professional standards and practices and quality procedures.</p> <p>5.2. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p> <p>5.3. Tools and equipment are cleaned, checked and maintained in accordance with manufacturers' recommendations and SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations for guitar making including estimation and measurement.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to acoustic guitars
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.
- Technology skills to:
 - rough out components
 - use instrument making tools and materials
 - apply instrument making techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply basic work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to material use in making acoustic guitars
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of guitar making tools and equipment
 - Basic characteristics of timber, timber products and defects
 - Properties of staining and finishing materials
 - Effect of material to be soft soldered on the selection of consumables
 - Basic properties of ferrous and non-ferrous materials
 - Glue chemistry and its effect on acoustic guitar making components and their finished surfaces
 - Hazard and emergency procedures in the finishing process of instrument making
 - Guitar making reporting requirements and procedures
 - Guitar making record procedures
 - Different materials used in acoustic guitar making
 - Characteristics of the items required in acoustic guitar making
 - Cutting patterns and sequences relevant to the brief
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Instrument storage and labelling at each stage of the making process.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Design brief may include:

- specifications
- drawings
- designs
- job sheets
- work instructions.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
- direct flame and other heating devices.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments
- solder
- ferrous and non-ferrous materials.

Components/sub-assemblies may include:

- fret boards
- strings
- rosettes
- necks
- bridge
- brace
- soundboard / back
- completed acoustic guitar body
- tuning heads
- nut and saddle.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Personal protective equipment may include:

- ear muffs
- safety glasses
- gloves
- respirator masks, ventilation or extraction systems for soldering
- safety footwear
- work wear.

Roughed out may include:

- preliminary casting
- forging
- cut out.

OHS/WHS requirements may include:

- State or Territory legislation and regulations
- organisational safety policies and procedures
- material safety management systems
- hazardous and dangerous goods codes
- relevant health regulations
- manual handling procedures
- use of personal protective equipment and clothing, organisation insurance requirements.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standard
- confidentiality and privacy
- OHS/WHS
- Environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stain.

Finishing may include:

- painting
- raw finishing.

Quality may include:

- integrity of sound
- aesthetics
- playability.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and follow supplied design brief specifications
 - Follow work instructions, standard operating procedures and safe work practices
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Prepare for, make, surface finish and finalise the making process of an acoustic guitar
 - Apply the quality and professional standards required when making an acoustic guitar.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the making of an acoustic guitar
 - supplied design brief.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to acoustic guitar making
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21811 Make aerophone instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to make an aerophone instrument from a given design brief.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument making organisations of all sizes. The making of aerophone instruments, including indigenous, applies to a known workplace environment with established parameters. It involves following instructions for assembling components to make an aerophone instrument, the application of skills and knowledge within routine activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

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|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Interpret and confirm design brief with supervisor | <ol style="list-style-type: none"> 1.1. The supplied <i>design brief</i> is read and interpreted. 1.2. Job requirements to meet the design brief are communicated and confirmed with supervisor. 1.3. The required <i>tools and equipment</i> according to the design brief are clarified with supervisor. 1.4. The required <i>materials</i> and <i>components/sub-assemblies</i> according to the design brief are clarified with supervisor. 1.5. Assembly sequence is confirmed with supervisor. |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare to assemble equipment and components	<p>2.1. Assembly tools and equipment are selected according to instructions or job requirements and used to standard operating procedures (SOPs).</p> <p>2.2. Components/sub-assemblies are obtained and arranged for assembly.</p> <p>2.3. Missing components are identified according to the design brief.</p> <p>2.4. Materials appropriate to aerophone instrument making are obtained to ensure they are prepared, safely handled and located ready for use.</p> <p>2.5. Appropriate personal protective equipment (PPE) is selected in accordance with SOPs.</p> <p>2.6. Environmental workplace considerations and measures are identified and applied to reduce noise, dust and obstacles.</p>
3. Assemble components	<p>3.1. Components are roughed out as required, according to instruction.</p> <p>3.2. Materials for metal and or wood based aerophone instruments are drilled, cut, bored, formed, turned, machined, bent, aligned, and joined in accordance with professional standards and SOPs.</p> <p>3.3. Components are laid out and assembled using appropriate fastenings.</p> <p>3.4. Fixing and joining devices are used in accordance with types of materials to be joined and work instructions.</p> <p>3.5. Assembly is produced following correct sequence of operations using selected equipment to SOPs.</p> <p>3.6. Assembly is tested/checked for compliance to job requirements, following SOPs.</p> <p>3.7. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage, for supervisor inspection.</p> <p>3.8. Occupational Health and Safety (OHS)/ Work Health and Safety (WHS) and legislative requirements are complied with at all times.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish material and tools are prepared and assembled in accordance with manufacturer specification and SOPs.</p> <p>4.2. Aerophone instrument surface is prepared for finishing.</p> <p>4.3. Aerophone instrument surface is finished in accordance with customer specification and SOPs.</p> <p>4.4. On-going checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p>
5. Finalise making process	<p>5.1. Final checks and tests of the quality of the aerophone instrument are undertaken with supervisor in accordance with specifications, professional standards and practices and quality procedures.</p> <p>5.2. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p> <p>5.3. Tools and equipment are cleaned, checked and maintained in accordance with manufacturers' recommendations and SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations for aerophone instrument making including estimation and measurement.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to aerophone instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.
- Technology skills to:
 - rough out components
 - use instrument making tools and materials
 - apply instrument making techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply basic work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to material use in making aerophone instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of aerophone making tools and equipment
 - Basic characteristics of timber, timber products and defects
 - Basic characteristics of metals, metal products and defects
 - Properties of staining and finishing materials
 - Effect of material to be soft soldered on the selection of consumables
 - Basic properties of ferrous and non-ferrous materials
 - Glue chemistry and its effect on aerophone making components and their finished surfaces
 - Hazard and emergency procedures in the finishing process of instrument making
 - Aerophone making reporting requirements and procedures
 - Aerophone making record procedures
 - Different materials used in aerophone instrument making
 - Characteristics of the items required in aerophone making
 - Cutting patterns and sequences relevant to the brief
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Instrument storage and labelling at each stage of the making process.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Design brief may include:

- specifications
- drawings
- designs
- job sheets
- work instructions.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
 - die and punch
 - dappling pin and block

Tools and equipment may include:
(continued)

- swedging tools
- taps and dies
- drills
- lathe
- press
- milling machine
- general woodworking equipment
- direct flame and other heating devices.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments
- various natural fibres and materials derived from plants and animals such as skins, bone, stone, twine, reeds, wood, wax
- various precious and semi precious metals
- solder
- ferrous and non-ferrous materials
- electroplating and soldering materials required for different metals that comprise the components of aerophone instruments, including:
 - brass instrument parts such as bell, valve, body, slides (trombone), mouthpiece, tuning slides, mutes, conical tubing
 - woodwind instrument parts such as keys, shafts, pillars, posts, shanks, rings, crooks, ferrules, bezels, garlands and mounts.

Components/sub-assemblies may include:

- hollowed plant sections such as tree trunks or branches, reed tubes etc
- hollowed animal sections such as bone
- ceramic or glass chambers
- hollowed wooden sections
- solid wooden sections
- metal plate, solid and tube sections
- leather or plant derived wrapping or lashings
- simple or complex keywork assemblies
- reeds
- skins
- staples
- ligatures
- crooks and bocals
- slides
- blocks and stoppers
- notches, holes and embouchure assemblies
- mouthpieces
- adjusting mechanisms
- bell, body joints, barrel and head joint
- mounts, rings, ferrules
- garlands, bezels, bands
- harness
- stand
- metal, wooden (solid), fibre or cork joints.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Personal protective equipment may include:

- ear muffs
- safety glasses
- gloves
- respirator masks, ventilation or extraction systems for soldering
- safety footwear
- work wear.

Rough out may include:

- preliminary casting
- cut out
- forging.

Joined may include:

- soldered
- plant and animal based adhesive
- synthetic adhesive
- swedged
- wrapped
- pinned
- wedged.

OHS/WHs requirements may include:

- State or Territory legislation and regulations
- organisational safety policies and procedures
- material safety management systems
- hazardous and dangerous goods codes
- relevant health regulations
- manual handling procedures
- requirements may include the use of personal protective equipment and clothing, organisation insurance requirements.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation.
- award and enterprise agreements
- industrial relations
- Australian Standard
- confidentiality and privacy
- OHS/WHs
- Environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Surface finish material may include:

- lacquers
- shellac
- wax
- oil and fats
- stripper
- spirit stains
- water stains.

Finishing may include:

- painting
- raw finishing.

Quality may include:

- integrity of sound
- aesthetics
- playability.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and follow supplied design brief specifications
 - Follow work instructions, standard operating procedures and safe work practices
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Prepare for, make, surface finish and finalise the making process of an aerophone instrument
 - Apply the quality and professional standards required when making an aerophone instrument.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the making of an aerophone instrument
 - supplied design brief.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to woodwind instrument making
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21807 Make brass instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to make a brass instrument from a given design brief.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument making organisations of all sizes. The making of brass instruments applies to a known workplace environment with established parameters. It involves following instructions for assembling components to make a brass instrument, the application of skills and knowledge within routine activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Interpret and confirm design brief with supervisor</p> | <p>1.1. The supplied <i>design brief</i> is read and interpreted.</p> <p>1.2. Job requirements to meet the design brief are communicated and confirmed with supervisor.</p> <p>1.3. The required <i>tools and equipment</i> according to the design brief are clarified with supervisor.</p> <p>1.4. The required <i>materials</i> and <i>components/sub-assemblies</i> according to the design brief are clarified with supervisor.</p> <p>1.5. Assembly sequence is confirmed with supervisor.</p> |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare to assemble equipment and components	<p>2.1. Assembly tools and equipment are selected according to instructions or job requirements and used to standard operating procedures (SOPs).</p> <p>2.2. Components/sub-assemblies are obtained and arranged for assembly.</p> <p>2.3. Missing components are identified according to the design brief.</p> <p>2.4. Materials appropriate to brass instrument making are obtained to ensure they are prepared, safely handled and located ready for use.</p> <p>2.5. Appropriate personal protective equipment (PPE) is selected in accordance with SOPs.</p> <p>2.6. Environmental workplace considerations and measures are identified and applied to reduce noise, dust and obstacles.</p>
3. Assemble components	<p>3.1. Components are roughed out as required, according to instruction.</p> <p>3.2. Materials are cut, formed, bent, aligned, joined and soldered in accordance with professional standards and SOPs.</p> <p>3.3. Components are laid out and assembled using appropriate fastenings.</p> <p>3.4. Fixing and joining devices are used in accordance with types of materials to be joined and work instructions.</p> <p>3.5. Assembly is produced following correct sequence of operations using selected equipment to SOPs.</p> <p>3.6. Assembly is tested/checked for compliance to job requirements, following SOPs.</p> <p>3.7. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage, for supervisor inspection.</p> <p>3.8. Occupational Health and Safety (OHS)/ Work Health and Safety (WHS) and legislative requirements are complied with at all times.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish material and tools are prepared and assembled in accordance with manufacturer specification and SOPs.</p> <p>4.2. Brass instrument surface is prepared for finishing.</p> <p>4.3. Brass instrument surface is finished in accordance with customer specification and SOPs.</p> <p>4.4. On-going checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p>
5. Finalise making process	<p>5.1. Final checks and tests of the quality of the brass instrument are undertaken with supervisor in accordance with specifications, professional standards and practices and quality procedures.</p> <p>5.2. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p> <p>5.3. Tools and equipment are cleaned, checked and maintained in accordance with manufacturers' recommendations and SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations for brass instrument making including estimation and measurement.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to brass instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.
- Technology skills to:
 - rough out components
 - use instrument making tools and materials
 - apply instrument making techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply basic work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making brass instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of brass instrument making tools and equipment
 - Basic characteristics of metal products and defects
 - Properties of staining materials
 - Effect of material to be soft soldered on the selection of consumables
 - Basic properties of ferrous and non-ferrous materials
 - Chemistry of adhesives and its effect on components and finished surfaces
 - Hazard and emergency procedures in the instrument making process
 - Brass making reporting requirements and procedures
 - Brass making record procedures
 - Different materials used in brass instrument making
 - Characteristics of the items required in brass instrument making
 - Tools required for brass instrument making
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Industry storage and labelling at each stage of the making process.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Design brief may include:

- specifications
- drawings
- designs
- job sheets
- work instructions.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- special tools such as:
 - blocks
 - cradles
 - contour and step gauges
 - soldering irons (all types)
 - mandrels
 - dollys
 - hammers
 - anvil
 - lathe
 - die and punch
- direct flame and other heating devices.

Materials may include:

- metals
- adhesives
- screws
- various metals that are traditionally used in these instruments
- solder and fixing agents
- ferrous and non-ferrous materials
- electroplating and soldering materials required for different metals that comprise the components of brass instruments.

Components/sub-assemblies may include:

- bell
- valve
- body, slides (trombones and trumpets)
- mouthpiece
- tuning slides
- mutes
- conical and cylindrical tubing
- rings and hooks (finger holds)
- loops
- bows
- crooks and shanks
- bells and balls
- garland
- bezel
- ferrules
- water key
- lead pipe
- trigger
- mouth piece receiver.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Personal protective equipment (PPE) may include:

- ear muffs
- safety glasses
- gloves
- respirator masks, ventilation or extraction systems for soldering
- safety footwear
- work wear.

Rough out may include:

- preliminary casting
- cut out
- forging.

OHS/WHs requirements may include:

- State or Territory legislation and regulations
- organisational safety policies and procedures
- material safety management systems
- hazardous and dangerous goods codes
- relevant health regulations
- manual handling procedures
- requirements may include the use of personal protective equipment and clothing, organisation insurance requirements.

Legislative requirements
may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standard
- confidentiality and privacy
- OHS/WHs
- Environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Surface finish material may
include:

- lacquers
- shellac
- wax
- oil
- stripper
- acid stains.

Finishing may include:

- painting
- raw finishing.

Quality may include:

- integrity of sound
- aesthetics
- playability.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and follow supplied design brief specifications
 - Follow work instructions, standard operating procedures and safe work practices
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Prepare for, make, surface finish and finalise the making process of a brass instrument
 - Apply the quality and professional standards required when making a brass instrument.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the making of a brass instrument
 - supplied design brief.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to brass instrument making
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21805 Make electric guitars

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to make a standard (non-vintage) electric guitar from a given design brief.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument making organisations of all sizes. The making of electric guitars applies to a known workplace environment with established parameters. It involves following instructions for assembling components to make an electric guitar, the application of skills and knowledge within routine activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Interpret and confirm design brief with supervisor | 1.1. The supplied <i>design brief</i> is read and interpreted.
1.2. Job requirements to meet the design brief are communicated and confirmed with supervisor.
1.3. The required <i>tools and equipment</i> according to the design brief are clarified with supervisor.
1.4. The required <i>materials</i> and <i>components/sub-assemblies according to the design brief</i> are clarified with supervisor.
1.5. Assembly sequence is confirmed with supervisor. |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare to assemble equipment and components	<p>2.1. Assembly tools and equipment are selected according to instructions or job requirements and used to standard operating procedures (SOPs).</p> <p>2.2. Components/sub-assemblies are obtained and arranged for assembly.</p> <p>2.3. Missing components are identified according to the design brief.</p> <p>2.4. Materials appropriate to electric guitar making are obtained to ensure they are prepared, safely handled and located ready for use.</p> <p>2.5. Appropriate personal protective equipment (PPE) is selected in accordance with SOPs.</p> <p>2.6. Environmental workplace considerations and measures are identified and applied to reduce noise, dust and obstacles.</p>
3. Assemble components	<p>3.1. Components are roughed out as required, according to instruction.</p> <p>3.2. Materials are cut, formed, aligned, joined and soldered in accordance with professional standards and SOPs.</p> <p>3.3. Components are laid out and assembled using appropriate fastenings.</p> <p>3.4. Fixing and joining devices are used in accordance with types of materials to be joined and work instructions.</p> <p>3.5. Assembly is produced following correct sequence of operations using selected equipment to SOPs.</p> <p>3.6. Assembly is tested/checked for compliance to job requirements, following SOPs.</p> <p>3.7. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage, for supervisor inspection.</p> <p>3.8. Occupational Health and Safety (OHS)/ Work Health and Safety (WHS) and legislative requirements are complied with at all times.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish material and tools are prepared and assembled in accordance with manufacturer specification and SOPs.</p> <p>4.2. Electric guitar surface is prepared for finishing.</p> <p>4.3. Electric guitar surface is finished in accordance with customer specification and SOPs.</p> <p>4.4. On-going checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p>
5. Finalise making process	<p>5.1. Final checks and tests of the quality of the electric guitar are undertaken with supervisor in accordance with specifications, professional standards and practices and quality procedures.</p> <p>5.2. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p> <p>5.3. Tools and equipment are cleaned, checked and maintained in accordance with manufacturers' recommendations and SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations for guitar making including estimation and measurement.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to electric guitars
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.
- Technology skills to:
 - rough out components
 - use instrument making tools and materials
 - apply instrument making techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply basic work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making electric guitars
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of guitar making tools and equipment
 - Basic characteristics of timber, timber products and defects
 - Properties of staining and finishing materials
 - Effect of material to be soft soldered on the selection of consumables
 - Basic properties of ferrous and non-ferrous materials
 - Glue chemistry and its effect on electric guitar making components and their finished surfaces
 - Hazard and emergency procedures in the finishing process of instrument making
 - Guitar making reporting requirements and procedures
 - Guitar making record procedures
 - Different materials used in electric guitar making
 - Characteristics of the items required in electric guitar making
 - Cutting patterns and sequences relevant to the brief
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Instrument storage and labelling at each stage of the making process.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Design brief may include:

- specifications
- drawings
- designs
- job sheets
- work instructions.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
- direct flame and other heating devices.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers and metals that are traditionally used in these instruments
- solder
- ferrous and non-ferrous materials.

Components/sub-assemblies may include:

- fret
- boards
- strings
- necks
- bridge
- brace
- soundboard/back
- completed electric guitar body
- tuning heads
- nut and saddle
- jack sockets
- volume and tone potentiometers
- vibrato
- pick up selector
- pick ups.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Personal protective equipment may include:

- ear muffs
- safety glasses
- gloves
- respirator masks, ventilation or extraction systems for soldering
- safety footwear
- work wear.

Roughed out may include:

- preliminary casting
- forging
- cut out.

OHS/WHs requirements may include:

- State or Territory legislation and regulations
- organisational safety policies and procedures
- material safety management systems
- hazardous and dangerous goods codes
- relevant health regulations
- manual handling procedures
- requirements may include the use of personal protective equipment and clothing, organisation insurance requirements.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standard
- confidentiality and privacy
- OHS/WHs
- Environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Surface finish material
may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stain.

Finishing may include:

- painting
- raw finishing.

Quality may include:

- integrity of sound
- aesthetics
- playability.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and follow supplied design brief specifications
 - Follow work instructions, standard operating procedures and safe work practices
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Prepare for, make, surface finish and finalise the making process of an electric guitar
 - Apply the quality and professional standards required when making an electric guitar.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the making of an electric guitar
 - supplied design brief.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to electric guitar making
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21806 Make percussion instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to make a percussion instrument from a given design brief.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument making organisations of all sizes. The making of percussion instruments applies to a known workplace environment with established parameters. It involves following instructions for assembling components to make a percussion instrument, the application of skills and knowledge within routine activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Interpret and confirm design brief with supervisor</p> | <p>1.1. The supplied <i>design brief</i> is read and interpreted.</p> <p>1.2. Job requirements to meet the design brief are communicated and confirmed with supervisor.</p> <p>1.3. The <i>tools and equipment</i> according to the design brief are clarified with supervisor.</p> <p>1.4. The required <i>materials</i> and <i>components/sub-assemblies</i> according to the design brief are clarified with supervisor.</p> <p>1.5. Assembly sequence is confirmed with supervisor.</p> |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare to assemble equipment and components	<p>2.1. Assembly tools and equipment are selected according to instructions or job requirements and used to standard operating procedures (SOPs).</p> <p>2.2. Components/sub-assemblies are obtained and arranged for assembly.</p> <p>2.3. Missing components are identified according to the design brief.</p> <p>2.4. Materials appropriate to percussion instrument making are obtained to ensure they are prepared, safely handled and located ready for use.</p> <p>2.5. Appropriate personal protective equipment (PPE) is selected in accordance with SOPs.</p> <p>2.6. Environmental workplace considerations and measures are identified and applied to reduce noise and waste.</p>
3. Assemble components	<p>3.1. Components are roughed out as required, according to instruction.</p> <p>3.2. Materials are cut, formed, aligned, joined and soldered in accordance with professional standards and SOPs.</p> <p>3.3. Components are laid out and assembled using appropriate fastenings.</p> <p>3.4. Fixing and joining devices are used in accordance with types of materials to be joined and work instructions.</p> <p>3.5. Assembly is produced following correct sequence of operations using selected equipment to SOPs.</p> <p>3.6. Assembly is tested/checked for compliance to job requirements, following SOPs.</p> <p>3.7. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage, for supervisor inspection.</p> <p>3.8. Occupational Health and Safety (OHS)/ Work Health and Safety (WHS) and legislative requirements are complied with at all times.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish material and tools are prepared and assembled in accordance with manufacturer specification and SOPs.</p> <p>4.2. Percussion instrument surface is prepared for finishing.</p> <p>4.3. Percussion instrument surface is electroplated and painted in accordance with customer specification and SOPs.</p> <p>4.4. On-going checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p>
5. Finalise making process	<p>5.1. Final checks and tests of the quality of the percussion instrument are undertaken with supervisor in accordance with specifications, professional standards and practices and quality procedures.</p> <p>5.2. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p> <p>5.3. Tools and equipment are cleaned, checked and maintained in accordance with manufacturers' recommendations and SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations for percussion instrument making including estimation and measurement.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to percussion instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.
- Technology skills to:
 - rough out components
 - use instrument making tools and materials
 - apply instrument making techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply basic work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to material use in making percussion instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of percussion instrument making tools and equipment
 - Basic characteristics of metal, timber and material products and defects
 - Properties of staining materials
 - Effect of material to be soft soldered on the selection of consumables
 - Basic properties of ferrous and non-ferrous materials
 - Chemistry of adhesives and its effect on components and finished surfaces
 - Hazard and emergency procedures in the instrument making process
 - Percussion making reporting requirements and procedures
 - Percussion making record procedures
 - Different materials used in percussion instrument making
 - Characteristics of the items required in percussion instrument making
 - Tools required for percussion instrument making
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Industry storage and labelling at each stage of the making process.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Design brief may include:

- specifications
- drawings
- designs
- job sheets
- work instructions.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
- direct flame and other heating devices.

Materials may include:

- metals
- plastics
- skins (natural and synthetic)
- veneers
- electroplating materials
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers/metals that are traditionally used in these instruments
- solder
- ferrous and non-ferrous materials
- electroplating and soldering materials required for different metals that may comprise the components of the percussion instrument.

Components/sub-assemblies may include:

- tension strings
- drumhead
- body
- screws
- stands
- mounting
- tension rod
- rim
- felted washers
- drum shells
- hoops
- claws and spurs
- legs
- isolation mounts
- bars
- beater
- tube

Components/sub-assemblies may include:
(Continued)

- spring
- wires
- chain
- stick.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Personal protective equipment (PPE) may include:

- ear muffs
- safety glasses
- gloves
- respirator masks, ventilation or extraction systems for soldering
- safety footwear
- work wear.

Rough out may include:

- preliminary casting
- cut out
- forging.

OHS/WHs requirements may include:

- State or Territory legislation and regulations
- organisational safety policies and procedures
- material safety management systems
- hazardous and dangerous goods codes
- relevant health regulations
- manual handling procedures
- requirements may include the use of personal protective equipment and clothing, organisation insurance requirements.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHs
- Environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains
- acid stains.

Finishing may include:

- electroplating
- painting
- raw finishing.

Quality may include:

- integrity of sound
- aesthetics
- playability.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and follow supplied design brief specifications
 - Follow work instructions, standard operating procedures and safe work practices.
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures.
 - Communicate effectively and work safely with others in the work area
 - Prepare for, make, surface finish and finalise the making process of a percussion instrument.
 - Apply the quality and professional standards required when making a percussion instrument.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the making of a percussion instrument
 - supplied design brief.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to percussion instrument making
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21810 Make special stringed instruments

Unit Descriptor This unit describes the performance outcomes, skills and knowledge required to make a special stringed instrument from a given design brief.

Employability Skills This unit contains employability skills.

Pre-requisite unit(s) Nil.

Application of the Unit This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument making organisations of all sizes. The making of special stringed instruments applies to a known workplace environment with established parameters. It involves following instructions for assembling components to make a special stringed instrument, the application of skills and knowledge within routine activities and exercising limited responsibility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

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|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Interpret and confirm design brief with supervisor.</p> | <p>1.1. The supplied <i>design brief</i> is read and interpreted.</p> <p>1.2. Job requirements to meet the design brief are communicated and confirmed with supervisor.</p> <p>1.3. The required <i>tools and equipment</i> according to the design brief are clarified with supervisor.</p> <p>1.4. The required <i>materials</i> and <i>components/sub-assemblies</i> according to the design brief are clarified with supervisor.</p> <p>1.5. Assembly sequence is confirmed with supervisor.</p> |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare to assemble equipment and components	<p>2.1. Assembly tools and equipment are selected according to instructions or job requirements and used to standard operating procedures (SOPs).</p> <p>2.2. Components/sub-assemblies are obtained and arranged for assembly.</p> <p>2.3. Missing components are identified according to the design brief.</p> <p>2.4. Materials appropriate to special stringed instrument making are obtained to ensure they are prepared, safely handled and located ready for use.</p> <p>2.5. Appropriate personal protective equipment (PPE) is selected in accordance with SOPs.</p> <p>2.6. Environmental workplace considerations and measures are identified and applied to reduce noise, dust and obstacles.</p>
3. Assemble components	<p>3.1. Components are roughed out as required, according to instruction.</p> <p>3.2. Materials are cut, formed, aligned, joined and soldered in accordance with professional standards and SOPs.</p> <p>3.3. Components are laid out and assembled using appropriate fastenings.</p> <p>3.4. Fixing and joining devices are used in accordance with types of materials to be joined and work instructions.</p> <p>3.5. Assembly is produced following correct sequence of operations using selected equipment to SOPs.</p> <p>3.6. Assembly is tested/checked for compliance to job requirements, following SOPs.</p> <p>3.7. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage, for supervisor inspection.</p> <p>3.8. Occupational Health and Safety (OHS)/ Work Health and Safety (WHS) and legislative requirements are complied with at all times.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish material and tools are prepared and assembled in accordance with manufacturer specification and SOPs.</p> <p>4.2. Special stringed instrument surface is prepared for finishing.</p> <p>4.3. Special stringed instrument surface is finished in accordance with customer specification and SOPs.</p> <p>4.4. On-going checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p>
5. Finalise making process	<p>5.1. Final checks and tests of the quality of the special stringed instrument are undertaken with supervisor in accordance with specifications, professional standards and practices and quality procedures.</p> <p>5.2. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p> <p>5.3. Tools and equipment are cleaned, checked and maintained in accordance with manufacturers' recommendations and SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations for special stringed instrument making including estimation and measurement.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to special stringed instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.
- Technology skills to:
 - rough out components
 - use instrument making tools and materials
 - apply instrument making techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply basic work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making special stringed instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters
 - Types of special stringed instrument making tools and equipment
 - Basic characteristics of timber, timber products and defects
 - Properties of staining and finishing materials
 - Effect of material to be soft soldered on the selection of consumables
 - Basic properties of ferrous and non-ferrous materials
 - Glue chemistry and its effect on special stringed instrument making components and their finished surfaces
 - Hazard and emergency procedures in the finishing process of instrument making
 - Special stringed instrument making reporting requirements and procedures
 - Special stringed instrument making record procedures
 - Different materials used in special stringed instrument making
 - Characteristics of the items required in special stringed instrument making
 - Cutting patterns and sequences relevant to the brief
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Instrument storage and labelling at each stage of the making process.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Design brief may include:

- specifications
- drawings
- designs
- job sheets
- work instructions.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
- direct flame and other heating devices.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments
- solder
- ferrous and non-ferrous materials.

Components/sub-assemblies may include:

- boards
- strings
- rosettes
- necks
- bridge
- brace
- soundboard / back
- completed special stringed instrument body
- tuning heads
- nut and saddle.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Personal protective equipment (PPE) may include:

- ear muffs
- safety glasses
- gloves
- respirator masks, ventilation or extraction systems for soldering
- safety footwear
- work wear.

Roughed out may include:

- preliminary casting
- forging
- cut out.

OHS/WHS requirements may include:

- State or Territory legislation and regulations
- organisational safety policies and procedures
- material safety management systems
- hazardous and dangerous goods codes
- relevant health regulations
- manual handling procedures
- requirements may include the use of personal protective equipment and clothing, organisation insurance requirements.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation.
- award and enterprise agreements
- industrial relations
- Australian Standard
- confidentiality and privacy
- OHS/WHS
- Environment protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Surface finish material

may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stain.

Finishing may include:

- painting
- raw finishing.

Quality may include:

- integrity of sound
- aesthetics
- playability.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and follow supplied design brief specifications
 - Follow work instructions, standard operating procedures and safe work practices
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - prepare for, make, surface finish and finalise the making process of a special stringed instrument
 - apply the quality and professional standards required when making a special stringed instrument.

EVIDENCE GUIDE

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the making of a special stringed instrument
 - supplied design brief.

Method of assessment

- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to special stringed instrument making
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
- Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21809 Make stringed instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to make a stringed instrument from a given design brief.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument making organisations of all sizes. The making of stringed instruments applies to a known workplace environment with established parameters. It involves following instructions for assembling components to make a stringed instruments, the application of skills and knowledge within routine activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Interpret and confirm design brief with supervisor. | 1.1. The supplied <i>design brief</i> is read and interpreted.
1.2. Job requirements to meet the design brief are communicated and confirmed with supervisor.
1.3. The required <i>tools and equipment</i> according to the design brief are clarified with supervisor.
1.4. The required <i>materials</i> and <i>components/sub-assemblies according to the design brief</i> are clarified with supervisor.
1.5. Assembly sequence is confirmed with supervisor. |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare to assemble equipment and components	<p>2.1. Assembly tools and equipment are selected according to instructions or job requirements and used to standard operating procedures (SOPs).</p> <p>2.2. Components/sub-assemblies are obtained and arranged for assembly.</p> <p>2.3. Missing components are identified according to the design brief.</p> <p>2.4. Materials appropriate to stringed instrument making are obtained to ensure they are prepared, safely handled and located ready for use.</p> <p>2.5. Appropriate personal protective equipment (PPE) is selected in accordance with SOPs.</p> <p>2.6. Environmental workplace considerations and measures are identified and applied to reduce noise, dust and obstacles.</p>
3. Assemble components	<p>3.1. Components are roughed out as required, according to instruction.</p> <p>3.2. Materials are cut, formed, aligned, joined and soldered in accordance with professional standards and SOPs.</p> <p>3.3. Components are laid out and assembled using appropriate fastenings.</p> <p>3.4. Fixing and joining devices are used in accordance with types of materials to be joined and work instructions.</p> <p>3.5. Assembly is produced following correct sequence of operations using selected equipment to SOPs.</p> <p>3.6. Assembly is tested/checked for compliance to job requirements, following SOPs.</p> <p>3.7. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage, for supervisor inspection.</p> <p>3.8. Occupational Health and Safety (OHS)/ Work Health and Safety (WHS) and legislative requirements are complied with at all times.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish material and tools are prepared and assembled in accordance with manufacturer specification and SOPs.</p> <p>4.2. Stringed instrument surface is prepared for finishing.</p> <p>4.3. Stringed instrument surface is finished in accordance with customer specification and SOPs.</p> <p>4.4. On-going checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p>
5. Finalise making process	<p>5.1. Final checks and tests of the quality of the stringed instrument are undertaken with supervisor in accordance with specifications, professional standards and practices and quality procedures.</p> <p>5.2. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p> <p>5.3. Tools and equipment are cleaned, checked and maintained in accordance with manufacturers' recommendations and SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations for stringed instrument making including estimation and measurement.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to stringed instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.
- Technology skills to:
 - rough out components
 - use instrument making tools and materials
 - apply instrument making techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply basic work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making stringed instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of stringed instrument making tools and equipment
 - Basic characteristics of timber, timber products and defects
 - Properties of staining and finishing materials
 - Effect of material to be soft soldered on the selection of consumables
 - Basic properties of ferrous and non-ferrous materials
 - Glue chemistry and its effect on stringed instrument making components and their finished surfaces
 - Hazard and emergency procedures in the finishing process of instrument making
 - Stringed instrument making reporting requirements and procedures
 - Stringed instrument making record procedures
 - Different materials used in stringed instrument making
 - Characteristics of the items required in stringed instrument making
 - Cutting patterns and sequences relevant to the brief
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Instrument storage and labelling at each stage of the making process
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling
 - Appropriate mathematical procedures for estimation and measurement.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Design brief may include:

- specifications
- drawings
- designs
- job sheets
- work instructions.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- special tools such as:
- side moulds
- blocks
- cramps
- cradles
- contour and step gauges
- arching and thickness plane
- soldering irons (all types)
- direct flame and other heating devices.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments
- solder
- ferrous and non-ferrous materials.

Components/sub-assemblies may include:

- boards
- strings
- rosettes
- necks
- bridge
- brace
- soundboard/back
- completed stringed instrument body
- tuning heads
- nut and saddle.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Personal protective equipment (PPE) may include:

- ear muffs
- safety glasses
- gloves
- respirator masks, ventilation or extraction systems for soldering
- safety footwear
- work wear.

Roughed out may include:

- preliminary casting
- forging
- cut out.

OHS/WHs requirements may include:

- State or Territory legislation and regulations
- organisational safety policies and procedures
- material safety management systems
- hazardous and dangerous goods codes
- relevant health regulations
- manual handling procedures
- requirements may include the use of personal protective equipment and clothing, organisation insurance requirements.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation.
- award and enterprise agreements
- industrial relations
- Australian Standard
- confidentiality and privacy
- OHS/WHs
- environment protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stain.

Finishing may include:

- painting
- raw finishing.

Quality may include:

- integrity of sound
- aesthetics
- playability.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and follow supplied design brief specifications.
 - Follow work instructions, standard operating procedures and safe work practices.
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures.
 - Communicate effectively and work safely with others in the work area.
 - Prepare for, make, surface finish and finalise the making process of a stringed instrument
 - Apply the quality and professional standards required when making a stringed instrument.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the making of a stringed instrument
 - supplied design brief.

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to stringed instrument making
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21808 Make woodwind instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to make a woodwind instrument from a given design brief.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument making organisations of all sizes. The making of woodwind instruments applies to a known workplace environment with established parameters. It involves following instructions for assembling components to make a woodwind instrument, the application of skills and knowledge within routine activities and exercising limited responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Interpret and confirm design brief with supervisor.</p> | <p>1.1. The supplied <i>design brief</i> is read and interpreted.</p> <p>1.2. Job requirements to meet the design brief are communicated and confirmed with supervisor.</p> <p>1.3. The required <i>tools and equipment</i> according to the design brief are clarified with supervisor.</p> <p>1.4. The required <i>materials</i> and <i>components/sub-assemblies</i> according to the design brief are clarified with supervisor.</p> <p>1.5. Assembly sequence is confirmed with supervisor.</p> |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare to assemble equipment and components	<p>2.1. Assembly tools and equipment are selected according to instructions or job requirements and used to standard operating procedures (SOPs).</p> <p>2.2. Components/sub-assemblies are obtained and arranged for assembly.</p> <p>2.3. Missing components are identified according to the design brief.</p> <p>2.4. Materials appropriate to woodwind instrument making are obtained to ensure they are prepared, safely handled and located ready for use.</p> <p>2.5. Appropriate personal protective equipment (PPE) is selected in accordance with SOPs.</p> <p>2.6. Environmental workplace considerations and measures are identified and applied to reduce noise, dust and obstacles.</p>
3. Assemble components	<p>3.1. Components are roughed out as required, according to instruction.</p> <p>3.2. Materials for metal and/or wood based woodwind instruments are drilled, cut, bored, formed, bent, turned, aligned, joined or soldered in accordance with professional standards and SOPs.</p> <p>3.3. Components are laid out and assembled using appropriate fastenings.</p> <p>3.4. Fixing and joining devices are used in accordance with types of materials to be joined and work instructions.</p> <p>3.5. Assembly is produced following correct sequence of operations using selected equipment to SOPs.</p> <p>3.6. Assembly is tested/checked for compliance to job requirements, following SOPs.</p> <p>3.7. Components and/or assemblies are handled and stored safely, in a manner least likely to cause damage, for supervisor inspection.</p> <p>3.8. Occupational Health and Safety (OHS)/ Work Health and Safety (WHS) and legislative requirements are complied with at all times.</p>
4. Finish surfaces	<p>4.1. Surface finish material and tools are prepared and assembled in accordance with manufacturer specification and SOPs.</p> <p>4.2. Woodwind instrument surface is prepared for finishing.</p> <p>4.3. Woodwind instrument surface is finished in accordance with customer specification and SOPs.</p> <p>4.4. On-going checks of finishing quality are undertaken with supervising staff in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise making process	<p>5.1. Final checks and tests of the quality of the woodwind instrument are undertaken with supervisor in accordance with specifications, professional standards and practices and quality procedures.</p> <p>5.2. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p> <p>5.3. Tools and equipment are cleaned, checked and maintained in accordance with manufacturers' recommendations and SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - clarify and confirm work instructions
 - work with supervisor, other workers and customers
 - report work outcomes and problems.
- Literacy skills to:
 - read and comprehend the basic content of work orders, enterprise procedures, material safety data sheets (msds), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations for woodwind instrument making including estimation and measurement.
- Writing skills to:
 - complete basic work documents
 - complete basic job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to woodwind instruments
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of assembly
 - plan own work within the given task parameters.

Required skills (Continued)

- Technology skills to:
 - rough out components
 - use instrument making tools and materials
 - apply instrument making techniques
 - apply manufacturer's servicing and maintenance requirements and procedures
 - apply basic work area and equipment inspection procedures.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making woodwind instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of woodwind making tools and equipment
 - Basic characteristics of timber, timber products and defects
 - Basic characteristics of metals, metal products and defects
 - Properties of staining and finishing materials
 - Effect of material to be soft soldered on the selection of consumables
 - Basic properties of ferrous and non-ferrous materials
 - Glue chemistry and its effect on woodwind making components and their finished surfaces
 - Hazard and emergency procedures in the finishing process of instrument making
 - Woodwind making reporting requirements and procedures
 - Woodwind making record procedures
 - Different materials used in woodwind making
 - Characteristics of the items required in woodwind making
 - Cutting patterns and sequences relevant to the brief
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Instrument storage and labelling at each stage of the making process.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Design brief may include:

- specifications
- drawings
- designs
- job sheets
- work instructions.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
 - die and punch
 - dappling pin and block
 - swedging tools
 - taps and dies

Tools and equipment may include:
(Continued)

- direct flame and other heating devices
- drills
- lathe
- press
- milling machining
- general woodworking equipment.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments
- various precious and semi precious metals
- solder
- ferrous and non-ferrous materials
- electroplating and soldering materials required for different metals that comprise the components of woodwind instruments
- woodwind components such as keys, shafts, pillars, pots, shanks, rings, crooks, ferrules, bezels, garlands and mounts.

Components/sub-assemblies may include:

- key
- key assembly
- shaft
- crook and bocal
- spring
- pad
- pillar
- ring
- headpiece
- body
- joint

Components/sub-assemblies may include:
(Continued)

- upper joint
- lower joint
- centre joint
- bell
- ligature
- barrel
- staple
- reeds
- cork
- mount
- ferrule
- mount
- cap
- adjustable stopper
- tuning slide
- boot joint
- vent
- lip
- plate.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Personal protective equipment (PPE) may include:

- ear muffs
- safety glasses
- gloves
- respirator masks, ventilation or extraction systems for soldering
- safety footwear
- work wear.

Rough out may include:

- preliminary casting
- cut out
- forging.

Joined may include:

- plant and animal based adhesive
- synthetic adhesive
- swedged
- wrapped
- pinned
- wedged.

OHS/WHs requirements may include:

- State or Territory legislation and regulations
- organisational safety policies and procedures
- material safety management systems
- hazardous and dangerous goods codes
- relevant health regulations
- manual handling procedures
- requirements may include the use of personal protective equipment and clothing, organisation insurance requirements.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standard
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Surface finish material may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finishing may include:

- painting
- raw finishing.

Quality may include:

- integrity of sound
- aesthetics
- playability.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and follow supplied design brief specifications
 - Follow work instructions, standard operating procedures and safe work practices
 - Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Prepare for, make, surface finish and finalise the making process of a woodwind instrument
 - Apply the quality and professional standards required when making a woodwind instrument.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the making of a woodwind instrument
 - supplied design brief.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to woodwind instrument making
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21822 Manufacture acoustic guitars

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture acoustic guitars.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument manufacturing organisations of all sizes. The manufacture of acoustic guitars applies to known or changing environments with established parameters. It involves the application of skills and knowledge at a tradesperson level, within routine and non-routine activities demonstrating autonomy and limited problem solving responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for manufacturing | <p>1.1. Applicable <i>Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements</i> relevant to machine material and manufacture of acoustic guitars are verified and complied with.</p> <p>1.2. <i>Work order</i> is reviewed, confirmed and clarified with <i>appropriate personnel</i>.</p> <p>1.3. Customer requirements are received, analysed and confirmed in accordance with <i>standard operating procedures (SOPs)</i>.</p> <p>1.4. Specifications are drawn up and required materials are identified in accordance with SOPs.</p> <p>1.5. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety.</p> |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare for manufacturing	<p>2.1. Required materials for the manufacture of the acoustic guitar are acquired, inspected and tested in accordance with SOPs.</p> <p>2.2. Required jigs and templates for the manufacture of the acoustic guitar are identified and acquired in accordance with SOPs.</p> <p>2.3. Tools, test and measurement instruments, consumables and other equipment required for the manufacture of the acoustic guitar are identified, selected and obtained in accordance with SOPs.</p>
3. Manufacture instruments	<p>3.1. Tools, jigs and equipment are applied in the manufacturing process in accordance with professional standards and enterprise requirements.</p> <p>3.2. Materials are cut, formed, aligned and joined in accordance with professional standards and enterprise requirements.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Ongoing checks of the quality of the manufacturing process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the acoustic guitar is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Acoustic guitar surface is prepared and finished in accordance with customer specifications and SOPs.</p> <p>4.3. Ongoing checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>
5. Finalise manufacturing processes	<p>5.1. Final checks and tests of the quality of the acoustic guitar are undertaken in accordance with customer's specifications, professional standards and practices and quality procedures.</p> <p>5.2. Production and other records are completed in accordance with enterprise requirements and standards.</p> <p>5.3. Remove waste and scrap material for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - report work outcomes and problems
 - clarify and confirm work requirements and specifications
 - work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity.
- Literacy skills to:
 - read and comprehend the content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements in the manufacture of acoustic guitars.
- Writing skills to:
 - complete work documents
 - complete job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to the manufacture of acoustic guitars
 - recognise and respond to circumstances outside instructions or personal competence
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of manufacturing process
 - plan own work within the given task parameters.
- Technology skills to:
 - use instrument manufacturing jigs, tools and materials
 - apply instrument manufacturing techniques and procedures
 - identify, anticipate and respond to faults in timber and/or guitar components
 - apply work area and equipment inspection procedures
 - use the workplace technology related to the selection and manufacture of components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment and procedures for their safe use, operation and maintenance
 - Characteristics, capabilities and limitations of the timbers traditionally used in the manufacture of acoustic guitars
 - Characteristics of timber, timber products and defects
 - Characteristics of non-timber materials used in the manufacture of acoustic guitars
 - Properties of staining and finishing materials
 - Glue chemistry and its effect on components and finished surfaces
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling in the manufacturing of acoustic guitars
 - Procedures for the recording, reporting and maintenance of workplace records and information.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of
 - personal protective equipment and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- surface finish materials
- various timbers that are traditionally used in these instruments

Tools, jigs and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- spray guns
- sanders
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
- direct flame and other heating devices.

Quality may include:

- integrity of sound
- aesthetics
- playability.

Surface finish materials may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finished may include:

- painting
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Read and interpret a work/job specification
- Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures
- Communicate effectively and work safely with others in the work area
- Plan and prepare, manufacture, and apply surface finish for an acoustic guitar
- Apply the quality and professional standards required in manufacturing and finalising an acoustic guitar.

Context of and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials and equipment relevant to the manufacture of acoustic guitars
 - specifications and work instructions.

Method of assessment

- Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment may be in conjunction with assessment of other units of competency.

VU21827 Manufacture brass instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture brass instruments, including cornets, trumpets and other military brass instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument manufacturing organisations of all sizes. The manufacture of brass instruments applies to known or changing environments with established parameters. It involves the application of skills and knowledge at a tradesperson level, within routine and non-routine activities demonstrating autonomy and limited problem solving responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Plan for manufacturing</p> | <p>1.1. Applicable <i>Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements</i> relevant to machine material and manufacture of brass instrument are verified and complied with.</p> <p>1.2. <i>Work order</i> is reviewed, confirmed and clarified with <i>appropriate personnel</i>.</p> <p>1.3. Customer requirements are received, analysed and confirmed in accordance with <i>standard operating procedures (SOPs)</i>.</p> <p>1.4. Specifications are drawn up and required materials are identified in accordance with SOPs.</p> |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	1.5. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety.
2. Prepare for manufacturing	<p>2.1. Required materials for the manufacture of the brass instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.2. Required electroplating and soldering materials for the manufacture of the brass instrument are identified and acquired in accordance with SOPs.</p> <p>2.3. Tools, test and measurement instruments, consumables and other equipment required for the manufacture of the brass instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Manufacture instruments	<p>3.1. Tools, jigs and equipment are applied in the manufacturing process in accordance with professional standards and enterprise requirements.</p> <p>3.2. Materials are cut, formed, bent, aligned and soldered in accordance with professional standards and enterprise requirements.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Ongoing checks of the quality of the manufacturing process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the brass instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Brass instrument surface is prepared and finished in accordance with customer specifications and SOPs.</p> <p>4.3. Ongoing checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise manufacturing processes	<p>5.1. Final checks and tests of the quality of the brass instrument are undertaken in accordance with customer's specifications, professional standards and practices and quality procedures.</p> <p>5.2. Production and other records are completed in accordance with enterprise requirements and standards.</p> <p>5.3. Remove waste and scrap material for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - report work outcomes and problems
 - clarify and confirm work requirements and specifications
 - work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity.
- Literacy skills to:
 - read and comprehend the content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements in the manufacture of brass instruments.
- Writing skills to:
 - complete work documents
 - complete job sheet.

Required skills (Continued)

- Self-management skills to:
 - collect, organise and understand materials technology and information related to the manufacture of brass instruments
 - recognise and respond to circumstances outside instructions or personal competence
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of manufacturing process
 - plan own work within the given task parameters.
- Technology skills to:
 - use instrument manufacturing jigs, tools and materials
 - apply instrument manufacturing techniques and procedures
 - identify, anticipate and respond to faults in metals and/or assembly components
 - apply work area and equipment inspection procedures
 - use the workplace technology related to the selection and manufacture of components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment and procedures for their safe use, operation and maintenance
 - Characteristics, capabilities and limitations of the metals traditionally used in the manufacture of brass instruments
 - Characteristics, capabilities and limitations of the brass instruments being manufactured
 - Properties of electroplating, painting and soldering materials
 - Properties of staining and finishing materials
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling in the manufacturing of brass instruments
 - Procedures for the recording, reporting and maintenance of workplace records and information.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of
 - personal protective equipment and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Materials may include:

- various metals
- plastics
- skins
- polishing cloths
- timbers that are traditionally used in these instruments
- electroplating and soldering materials required for different metals that comprise the components of brass instruments, including bell, valve, body, slides (trombone), mouthpiece, tuning slides, mutes, conical tubing
- surface finish materials.

Tools, jigs and equipment may include:

- measuring tapes
- brush
- rules
- hammers
- soldering irons
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- spray guns
- sanders
- electrodes
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles

Tools, jigs and equipment may include:
(Continued)

- contour and step gauges
- arching and thickness plane
- soldering irons (all types)
- direct flame and other heating devices.

Quality may include:

- integrity of sound
- aesthetics
- playability.

Surface finish materials may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains.

Finished may include:

- painting
- electroplating
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Read and interpret a work/job specification • Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures • Communicate effectively and work safely with others in the work area • Plan and prepare, manufacture, and apply surface finish to a brass instrument • Apply the quality and professional standards required when manufacturing a brass instrument.
Context of, and specific resources for assessment	<ul style="list-style-type: none"> • The application of competency is to be assessed in the workplace or realistically simulated workplace • Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints • Assessment is to comply with relevant regulatory or Australian Standards requirements • The following resources should be made available: <ul style="list-style-type: none"> – materials and equipment relevant to the manufacture of brass instruments – specifications and work instructions.
Method of assessment	<ul style="list-style-type: none"> • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process • Assessment may be in conjunction with assessment of other units of competency.

VU21823 Manufacture electric guitars

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture electric guitars.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music manufacturing organisations of all sizes. The manufacture of electric guitars applies to known or changing environments with established parameters. It involves the application of skills and knowledge at a tradesperson level, within routine and non-routine activities demonstrating autonomy and limited problem solving responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for manufacturing | <p>1.1. Applicable <i>Occupational Health and Safety (OHS)/ Work Health and Safety (WHS), legislative and organisational requirements</i> relevant to machine material are verified and complied with.</p> <p>1.2. <i>Work order</i> is reviewed, confirmed and clarified with <i>appropriate personnel</i>.</p> <p>1.3. Customer requirements are received, analysed and confirmed in accordance with <i>standard operating procedures (SOPs)</i>.</p> <p>1.4. Specifications are drawn up and required materials are identified in accordance with SOPs.</p> <p>1.5. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety.</p> |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare for manufacturing	<p>2.1. Required materials for the manufacture of the electric guitar are acquired, inspected and tested in accordance with SOPs.</p> <p>2.2. Required jigs and templates for the manufacture of the electric guitar are identified and acquired in accordance with SOPs.</p> <p>2.3. Tools, test and measurement instruments, consumables and other equipment required for the manufacture of the electric guitar are identified, selected and obtained in accordance with SOPs.</p>
3. Manufacture instruments	<p>3.1. Tools, jigs and equipment are applied in the manufacturing process in accordance with professional standards and enterprise requirements.</p> <p>3.2. Materials are cut, formed, aligned and joined in accordance with professional standards and enterprise requirements.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Ongoing checks of the quality of the manufacturing process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the electric guitar is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Electric guitar surface is prepared and finished in accordance with customer specifications and SOPs.</p> <p>4.3. Ongoing checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise manufacturing processes	<p>5.1. Final checks and tests of the quality of the electric guitar are undertaken in accordance with customer's specifications, professional standards and practices and quality procedures.</p> <p>5.2. Production and other records are completed in accordance with enterprise requirements and standards.</p> <p>5.3. Remove waste and scrap material for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - report work outcomes and problems
 - clarify and confirm work requirements and specifications
 - work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity.
- Literacy skills to:
 - read and comprehend the content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements in the manufacture of electric guitars.
- Writing skills to:
 - complete work documents
 - complete job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to the manufacture of electric guitars
 - recognise and respond to circumstances outside instructions or personal competence
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of manufacturing process
 - plan own work within the given task parameters.

Required skills

- Technology skills to:
 - use instrument manufacturing jigs, tools and materials
 - apply instrument manufacturing techniques and procedures
 - identify, anticipate and respond to faults in timber and/or guitar components
 - apply work area and equipment inspection procedures
 - use the workplace technology related to the selection and manufacture of components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment and procedures for their safe use, operation and maintenance
 - Characteristics, capabilities and limitations of the timbers traditionally used in the manufacture of electric guitars
 - Characteristics of timber, timber products and defects
 - Characteristics of non-timber materials used in the manufacture of electric guitars
 - Properties of staining and finishing materials
 - Glue chemistry and its effect on components and finished surfaces
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling in the manufacturing of electric guitars
 - Procedures for the recording, reporting and maintenance of workplace records and information.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of
 - personal protective equipment and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments
- surface finish materials.

Tools jigs and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- spray guns
- sanders
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles

Tools jigs and equipment may include:
(Continued)

- contour and step gauges
- arching and thickness plane
- soldering irons (all types)
- direct flame and other heating devices.

Quality may include:

- integrity of sound
- aesthetics
- playability.

Surface finish materials may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finished may include:

- painting
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Read and interpret a work/job specification • Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures • Communicate effectively and work safely with others in the work area • Plan and prepare, manufacture, and apply surface finish for an electric guitar • Apply the quality and professional standards required in manufacturing an electric guitar.
Context of, and specific resources for assessment	<ul style="list-style-type: none"> • The application of competency is to be assessed in the workplace or realistically simulated workplace • Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints • Assessment is to comply with relevant regulatory or Australian Standards requirements • The following resources should be made available: <ul style="list-style-type: none"> – materials and equipment relevant to the manufacture of electric guitars – specifications and work instructions.
Method of assessment	<ul style="list-style-type: none"> • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process • Assessment may be in conjunction with assessment of other units of competency.

VU21826 Manufacture percussion instruments

Unit Descriptor This unit describes the performance outcomes, skills and knowledge required to manufacture percussion instruments.

Employability Skills This unit contains employability skills.

Pre-requisite unit(s) Nil.

Application of the Unit This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument manufacturing organisations of all sizes. The manufacture of percussion instruments applies to known or changing environments with established parameters. It involves the application of skills and knowledge at a tradesperson level, within routine and non-routine activities demonstrating autonomy and limited problem solving responsibility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

1. Plan for manufacturing

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- 1.1. Applicable ***Occupational Health and Safety (OHS)/ Work Health and Safety (WHS), legislative and organisational requirements*** relevant to machine material and manufacture of percussion instrument are verified and complied with.
- 1.2. ***Work order*** is reviewed, confirmed and clarified with ***appropriate personnel***.
- 1.3. Customer requirements are received, analysed and confirmed in accordance with ***standard operating procedures (SOPs)***.
- 1.4. Specifications are drawn up and required materials are identified in accordance with SOPs.

ELEMENT	PERFORMANCE CRITERIA
	1.5. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety.
2. Prepare for manufacturing	<p>2.1. Required materials for the manufacture of the percussion instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.2. Required jigs and templates for the manufacture of the percussion instrument are identified and acquired in accordance with SOPs.</p> <p>2.3. Tools, test and measurement instruments, consumables and other equipment required for the manufacture of the percussion instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Manufacture instruments	<p>3.1. Tools, jigs and equipment are applied in the manufacturing process in accordance with professional standards and enterprise requirements.</p> <p>3.2. Materials are cut, bent, aligned and soldered in accordance with professional standards and enterprise requirements.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Ongoing checks of the quality of the manufacturing process are undertaken in accordance with professional standards and practice and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the percussion instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Percussion instrument surface is prepared and finished in accordance with customer's specifications and SOPs.</p> <p>4.3. Ongoing checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise manufacturing processes	<p>5.1. Final checks and tests of the quality of the percussion instrument are undertaken in accordance with customer's specifications, professional standards and practices and quality procedures.</p> <p>5.2. Production and other records are completed in accordance with enterprise requirements and standards.</p> <p>5.3. Remove waste and scrap material for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - report work outcomes and problems
 - clarify and confirm work requirements and specifications
 - work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity.
- Literacy skills to:
 - read and comprehend the content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements in the manufacture of percussion instruments.
- Writing skills to:
 - complete work documents
 - complete job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to the manufacture of percussion instruments
 - recognise and respond to circumstances outside instructions or personal competence
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of manufacturing process
 - plan own work within the given task parameters.

Required skills (Continued)

- Technology skills to:
 - use instrument manufacturing jigs, tools and materials
 - apply instrument manufacturing techniques and procedures
 - identify, anticipate and respond to faults in material and/or instrument components
 - apply work area and equipment inspection procedures
 - use the workplace technology related to the selection and manufacture of components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment and procedures for their safe use, operation and maintenance
 - Characteristics, capabilities and limitations of the metals traditionally used in the manufacture of percussion instruments
 - Characteristics, capabilities and limitations of the percussion instruments being manufactured
 - Properties of electroplating, painting and soldering materials
 - Properties of staining and finishing materials
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling in the manufacturing of percussion instruments
 - Procedures for the recording, reporting and maintenance of workplace records and information.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of
 - personal protective equipment and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards

Organisational requirements may include: (Continued)

- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Materials may include:

- various metals
- plastics
- skins
- timbers that are traditionally used in these instruments
- electroplating and soldering materials required for different metals that comprise the components of percussion instruments, including tension rings, drumhead, body, screws, stands
- surface finish materials .

Tools, jigs and equipment may include:

- measuring tapes
- rules
- hammers
- soldering irons
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- spray guns
- sanders
- electrodes
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles

Tools, jigs and equipment may include:
(Continued)

- contour and step gauges
- arching and thickness plane
- soldering irons (all types)
- direct flame and other heating devices.

Quality may include:

- integrity of sound
- aesthetics
- playability.

Surface finish materials may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains.

Finished may include:

- painting
- electroplating
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Read and interpret a work/job specification • Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures • Communicate effectively and work safely with others in the work area • Plan and prepare, manufacture, and apply surface finish to a percussion instrument. • Apply the quality and professional standards required when manufacturing a percussion instrument.
Context of, and specific resources for assessment	<ul style="list-style-type: none"> • The application of competency is to be assessed in the workplace or realistically simulated workplace • Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints • Assessment is to comply with relevant regulatory or Australian Standards requirements • The following resources should be made available: <ul style="list-style-type: none"> – materials and equipment relevant to the manufacture of percussion instruments – specifications and work instructions.
Method of assessment	<ul style="list-style-type: none"> • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process • Assessment may be in conjunction with assessment of other units of competency.

VU21824 Manufacture special stringed instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture special stringed instruments, specifically banjos, mandolins and dulcimers.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music manufacturing organisations of all sizes. The manufacture of special stringed instruments applies to known or changing environments with established parameters. It involves the application of skills and knowledge at a tradesperson level, within routine and non-routine activities demonstrating autonomy and limited problem solving responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

1. Plan for manufacturing

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- 1.1. Applicable ***Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements*** relevant to machine material and manufacture of stringed instruments are verified and complied with.
- 1.2. ***Work order*** is reviewed, confirmed and clarified with ***appropriate personnel***.
- 1.3. Customer requirements are received, analysed and confirmed in accordance with ***standard operating procedures (SOPs)***.
- 1.4. Specifications are drawn up and required materials are identified in accordance with SOPs.

ELEMENT	PERFORMANCE CRITERIA
	1.5. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety.
2. Prepare for manufacturing	<p>2.1. Required materials for the manufacture of the special stringed instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.2. Required jigs and templates for the manufacture of the special stringed instrument are identified and acquired in accordance with SOPs.</p> <p>2.3. Tools, test and measurement instruments, consumables and other equipment required for the manufacture of the special stringed instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Manufacture instruments	<p>3.1. Tools, jigs and equipment are applied in the manufacturing process in accordance with professional standards and enterprise requirements.</p> <p>3.2. Materials are cut, formed, aligned and joined in accordance with professional standards and enterprise requirements.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Ongoing checks of the quality of the manufacturing process are undertaken in accordance with professional standards and practice and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the special stringed instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Special stringed instrument surface is prepared and finished in accordance with customer specifications and SOPs.</p> <p>4.3. Ongoing checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise manufacturing processes	<p>5.1. Final checks and tests of the quality of the special stringed instrument are undertaken in accordance with customer's specifications, professional standards and practices and quality procedures.</p> <p>5.2. Production and other records are completed in accordance with enterprise requirements and standards.</p> <p>5.3. Remove waste and scrap material for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - report work outcomes and problems
 - clarify and confirm work requirements and specifications
 - work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity.
- Literacy skills to:
 - read and comprehend the content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements in the manufacture of special stringed instruments.
- Writing skills to:
 - complete work documents
 - complete job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to the manufacture of special stringed instruments
 - recognise and respond to circumstances outside instructions or personal competence
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of manufacturing process
 - plan own work within the given task parameters.

Required skills (Continued)

- Technology skills to:
 - use instrument manufacturing jigs, tools and materials
 - apply instrument manufacturing techniques and procedures
 - Identify, anticipate and respond to faults in materials and/or special stringed instrument components
 - apply work area and equipment inspection procedures
 - use the workplace technology related to the selection and manufacture of components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment and procedures for their safe use, operation and maintenance
 - Characteristics, capabilities and limitations of the timbers traditionally used in the manufacture of special stringed instruments
 - Characteristics of timber, timber products and defects
 - Characteristics of non-timber materials used in the manufacture of special stringed instruments
 - Properties of staining and finishing materials
 - Glue chemistry and its effect on components and finished surfaces
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling in the manufacturing of special stringed instruments
 - Procedures for the recording, reporting and maintenance of workplace records and information.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments
- surface finish materials.

Tools jigs and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- spray guns
- sanders
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles

Tools jigs and equipment may include:
(Continued)

- contour and step gauges
- arching and thickness plane
- soldering irons (all types)
- direct flame and other heating devices.

Quality may include:

- integrity of sound
- aesthetics
- playability.

Surface finish materials may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finished may include:

- painting
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Read and interpret a work/job specification • Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures • Communicate effectively and work safely with others in the work area • Plan and prepare, manufacture, and apply surface finish for special stringed instrument • Apply the quality and professional standards required in manufacturing a special stringed instrument.
Context of, and specific resources for assessment	<ul style="list-style-type: none"> • The application of competency is to be assessed in the workplace or realistically simulated workplace. • Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints. • Assessment is to comply with relevant regulatory or Australian Standards requirements. • The following resources should be made available: <ul style="list-style-type: none"> – materials and equipment relevant to the manufacture of special stringed instruments – specifications and work instructions.
Method of assessment	<ul style="list-style-type: none"> • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process • Assessment may be in conjunction with assessment of other units of competency.

VU21825 Manufacture stringed instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture stringed instruments, specifically violins, violas and cellos.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	<p>This unit supports the attainment of skills and knowledge required for competent workplace performance in music manufacturing organisations of all sizes. The manufacture of stringed instruments applies to known or changing environments with established parameters. It involves the application of skills and knowledge at a tradesperson level, within routine and non-routine activities demonstrating autonomy and limited problem solving responsibility.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for manufacturing | <p>1.1. Applicable <i>Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements</i> relevant to machine material and manufacture of stringed instruments are verified and complied with.</p> <p>1.2. <i>Work order</i> is reviewed, confirmed and clarified with <i>appropriate personnel</i>.</p> <p>1.3. Customer requirements are received, analysed and confirmed in accordance with <i>standard operating procedures (SOPs)</i>.</p> <p>1.4. Specifications are drawn up and required materials are identified in accordance with SOPs.</p> |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	1.5. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety.
2. Prepare for manufacturing	<p>2.1. Required materials for the manufacture of the stringed instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.2. Required jigs and templates for the manufacture of the stringed instrument are identified and acquired in accordance with SOPs.</p> <p>2.3. Tools, test and measurement instruments, consumables and other equipment required for the manufacture of the stringed instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Manufacture instruments	<p>3.1. Tools, jigs and equipment are applied in the manufacturing process in accordance with professional standards and enterprise requirements.</p> <p>3.2. Materials are cut, formed, aligned and joined in accordance with professional standards and enterprise requirements.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Ongoing checks of the quality of the manufacturing process are undertaken in accordance with professional standards and practice and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the stringed instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Stringed instrument surface is prepared and finished in accordance with customer specifications and SOPs.</p> <p>4.3. Ongoing checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise manufacturing processes	<p>5.1. Final checks and tests of the quality of the special stringed instrument are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>5.2. Production and other records are completed in accordance with enterprise requirements and standards.</p> <p>5.3. Remove waste and scrap material for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - report work outcomes and problems
 - clarify and confirm work requirements and specifications
 - work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity.
- Literacy skills to:
 - read and comprehend the content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements in the manufacture of stringed instruments.
- Writing skills to:
 - complete work documents
 - complete job sheet.
- Self-management skills to:
 - collect, organise and understand materials technology and information related to the manufacture of stringed instruments
 - recognise and respond to circumstances outside instructions or personal competence
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage

Required skills (continued)

- recognise sequences of manufacturing process
 - plan own work within the given task parameters.
- Technology skills to:
 - use instrument manufacturing jigs, tools and materials
 - apply instrument manufacturing techniques and procedures
 - Identify, anticipate and respond to faults in materials and/or stringed instrument components
 - Apply work area and equipment inspection procedures
 - Use the workplace technology related to the selection and manufacture of components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or territory OHS legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment and procedures for their safe use, operation and maintenance
 - Characteristics, capabilities and limitations of the timbers traditionally used in the manufacture of stringed instruments
 - Characteristics of timber, timber products and defects
 - Characteristics of non-timber materials used in the manufacture of stringed instruments
 - Properties of staining and finishing materials
 - Glue chemistry and its effect on components and finished surfaces
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling in the manufacturing of stringed instruments.
 - Procedures for the recording, reporting and maintenance of workplace records and information.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nails
- dowels
- various timbers that are traditionally used in these instruments
- surface finish materials.

Tools jigs and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers

Tools jigs and equipment may include:

- spray guns
- sanders
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
- direct flame and other heating devices.

Quality may include:

- integrity of sound
- aesthetics
- playability.

Surface finish materials may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains
- water stains.

Finished may include:

- painting
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Read and interpret a work/job specification • Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures • Communicate effectively and work safely with others in the work area • Plan and prepare, manufacture, and apply surface finish for stringed instrument • Apply the quality and professional standards required in manufacturing a stringed instrument.
Context of, and specific resources for assessment	<ul style="list-style-type: none"> • The application of competency is to be assessed in the workplace or realistically simulated workplace • Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints • Assessment is to comply with relevant regulatory or Australian Standards requirements • The following resources should be made available: <ul style="list-style-type: none"> – materials and equipment relevant to the manufacture of stringed instruments – specifications and work instructions.
Method of assessment	<ul style="list-style-type: none"> • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process • Assessment may be in conjunction with assessment of other units of competency.

VU21828 Manufacture woodwind instruments

Unit Descriptor This unit describes the performance outcomes, skills and knowledge required to manufacture woodwind instruments.

Employability Skills This unit contains employability skills.

Pre-requisite unit(s) Nil.

Application of the Unit This unit supports the attainment of skills and knowledge required for competent workplace performance in music instrument manufacturing organisations of all sizes. The manufacture of woodwind instruments applies to known or changing environments with established parameters. It involves the application of skills and knowledge at a tradesperson level, within routine and non-routine activities demonstrating autonomy and limited problem solving responsibility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

1. Plan for manufacturing

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- 1.1. Applicable ***Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements*** relevant to machine material and manufacture of woodwind instrument are verified and complied with.
- 1.2. ***Work order*** is reviewed, confirmed and clarified with ***appropriate personnel***.
- 1.3. Customer requirements are received, analysed and confirmed in accordance with ***standard operating procedures (SOPs)***.
- 1.4. Specifications are drawn up and required materials are identified in accordance with SOPs.

ELEMENT	PERFORMANCE CRITERIA
2. Prepare for manufacturing	<p>1.5. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety.</p> <p>2.1. Required materials for the manufacture of the woodwind instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.2. Required electroplating and soldering materials for the manufacture of the woodwind instrument are identified and acquired in accordance with SOPs.</p> <p>2.3. Tools, test and measurement instruments, consumables and other equipment required for the manufacture of the woodwind instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Manufacture instruments	<p>3.1. Tools, jigs and equipment are applied in the manufacturing process in accordance with professional standards and enterprise requirements.</p> <p>3.2. Materials are cut, formed, bent, aligned and soldered in accordance with professional standards and enterprise requirements.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Ongoing checks of the quality of the manufacturing process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the woodwind instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Woodwind instrument surface is prepared and finished in accordance with customer specifications and SOPs.</p> <p>4.3. Ongoing checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise manufacturing processes	<p>5.1. Final checks and tests of the quality of the woodwind instrument are undertaken in accordance with customer's specifications, professional standards and practices and quality procedures.</p> <p>5.2. Production and other records are completed in accordance with enterprise requirements and standards.</p> <p>5.3. Remove waste and scrap material for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - actively listen and question to obtain information
 - convey ideas and information
 - report work outcomes and problems
 - clarify and confirm work requirements and specifications
 - Work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity.
- Literacy skills to:
 - read and comprehend the content of work orders, enterprise procedures, material safety data sheets (MSDS), material quantities and measurements.
- Numeracy skills to:
 - apply appropriate mathematical calculations to correctly complete measurements, calculate area and volume and estimate other material requirements in the manufacture of woodwind instruments.
- Writing skills to:
 - complete work documents
 - complete job sheet.

Required skills

- Self-management skills to:
 - collect, organise and understand materials technology and information related to the manufacture of woodwind instruments
 - recognise and respond to circumstances outside instructions or personal competence
 - obtain and use supplied tools and materials to avoid any backtracking, work flow interruptions or wastage
 - recognise sequences of manufacturing process
 - plan own work within the given task parameters.
- Technology skills to:
 - use instrument manufacturing jigs, tools and materials
 - apply instrument manufacturing techniques and procedures
 - identify, anticipate and respond to faults in metals and/or assembly components
 - apply work area and equipment inspection procedures
 - use the workplace technology related to the selection and manufacture of components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or territory OHS/WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for machining material
 - Organisational and site standards, requirements, policies and procedures for machining material
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of tools and equipment and procedures for their safe use, operation and maintenance
 - Characteristics, capabilities and limitations of the metals traditionally used in the manufacture of woodwind instruments
 - Characteristics, capabilities and limitations of the woodwind instruments being manufactured
 - Properties of electroplating, painting and soldering materials
 - Properties of staining and finishing materials
 - Cutting patterns and sequences
 - Cutting tool condition assessment
 - Industry standard cross-sections and lengths
 - Storage systems and labelling in the manufacturing of woodwind instruments
 - Procedures for the recording, reporting and maintenance of workplace records and information.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- the use of
 - personal protective equipment and clothing
 - firefighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- applicable legislation from all levels of government that affect organisational operation
- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals

Organisational requirements may include: (Continued)

- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Work order may include:

- design
- tolerances
- process
- materials
- finishes
- quantity.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues
- managers.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including job sheets, cutting lists, plans, drawings and designs
- manufacturer specifications and operational procedures.

Materials may include:

- various metals
- plastics
- skins
- polishing clothes
- timbers that are traditionally used in these instruments
- electroplating and soldering materials required for different metals that comprise the components of woodwind instruments, including bell, valve, body, slides (trombone), mouthpiece, tuning slides, mutes, conical tubing.
- surface finish materials.

Tools, jigs and equipment may include:

- measuring tapes
- brush
- rules
- hammers
- soldering irons
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- air compressor and hoses
- clamps
- screwdrivers
- pincers
- spray guns
- sanders
- electrodes

Tools, jigs and equipment may include:
(Continued)

- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
- direct flame and other heating devices.

Quality may include:

- integrity of sound
- aesthetics
- playability.

Surface finish materials may include:

- lacquers
- shellac
- wax
- oil
- stripper
- spirit stains.

Finished may include:

- painting
- electroplating
- raw finishes.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Read and interpret a work/job specification • Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures • Communicate effectively and work safely with others in the work area • Plan and prepare, manufacture, and apply surface finish to a woodwind instrument • Apply the quality and professional standards required when manufacturing a woodwind instrument.
Context of, and specific resources for assessment	<ul style="list-style-type: none"> • The application of competency is to be assessed in the workplace or realistically simulated workplace • Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints • Assessment is to comply with relevant regulatory or Australian Standards requirements • The following resources should be made available: <ul style="list-style-type: none"> – materials and equipment relevant to the manufacture of woodwind instruments – specifications and work instructions.
Method of assessment	<ul style="list-style-type: none"> • Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application • Assessment may be applied under project related conditions (real or simulated) and require evidence of process • Assessment may be in conjunction with assessment of other units of competency.

VU21829 Repair acoustic guitars

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to repair standard and antique acoustic guitars.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in music industry organisations of all sizes. The repair of acoustic guitars applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level. These skills and knowledge are to be used within the scope of the individual's job and authority.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

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|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for repair | <p>1.1. Work order is reviewed, confirmed and clarified with appropriate personnel.</p> <p>1.2. Applicable Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements relevant to the repair of acoustic guitars are verified and complied with.</p> <p>1.3. Customer requirements are received and confirmed in accordance with enterprise procedures and analysed to determine repair feasibility.</p> <p>1.4. Climatic conditions of guitar storage is confirmed with customer.</p> <p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> <p>1.6. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency.</p> |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare for repair	<p>2.1. Acoustic guitar is cleaned and examined and required repairs are determined in accordance with customer's requirements and SOPs.</p> <p>2.2. Required materials for the repair of the acoustic guitar are acquired, inspected and tested in accordance with SOPs.</p> <p>2.3. Required electroplating and soldering materials for the repair of the acoustic guitar are identified and acquired in accordance with SOPs.</p> <p>2.4. Required jigs and templates for the repair of the acoustic guitar are identified and acquired in accordance with SOPs.</p> <p>2.5. Tools, test and measurement instruments, consumables and other equipment required for the repair of the acoustic guitar are identified, selected and obtained in accordance with SOPs.</p>
3. Repair instruments	<p>3.1. Tools, jigs and equipment are applied in the repair process in accordance with professional standards and SOPs.</p> <p>3.2. Materials are cut, formed, aligned and joined/soldered in accordance with professional standards and SOPs.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Checks of the quality of the repair process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the acoustic guitar is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Repaired acoustic guitar surface is prepared for finishing in accordance with customer specifications and SOPs.</p> <p>4.3. Repaired acoustic guitar surface is finished and refinished in accordance with customer specifications and SOPs.</p> <p>4.4. Checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise repair processes	<p>5.1. Final checks and tests of the quality of the acoustic guitar repairs are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>5.2. Repair and other records are completed in accordance with SOPs.</p> <p>5.3. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - confirm work requirements and specifications
 - coordinate work with supervisor, other workers and customers
 - report work outcomes and problems
 - maintain quality records related to instrument repair.
- Literacy and numeracy skills to:
 - use mathematical ideas and techniques to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Problem solving skills to:
 - recognise and respond to circumstances outside instructions or personal competence
 - identify, anticipate and respond to faults in timber and/or repair components
 - work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity.
- Plan and organise activities to:
 - prepare and layout own worksite
 - plan own work schedule within the given task parameters
 - obtain and use tools and materials to avoid any backtracking, work flow interruptions or wastage.
- Technology skills to:
 - use instrument making tools and materials with repairing techniques
 - use the workplace technology related to the selection and assembly of repair components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to material use in making acoustic guitars
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of guitar repair tools and equipment
 - Materials technology and information related to the repair of acoustic guitars
 - Faults in timber and/or repair components
 - Glue chemistry and its effect on acoustic guitar components and finished surfaces
 - The impact of instrument structure on sound quality
 - Guitar sensitivity to differing environmental conditions.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work order may include:

- customers' requirements
- repair specification
- historical repair data
- manufacturers specific data
- design specific data
- material tolerances and specification data
- repair process
- specific materials to be used
- finish requirements.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- requirements may include the use of:
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Customer may include:

- touring artists
- domestic artists
- guitar enthusiasts
- collectors.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nail
- dowels
- animal gut products
- nylon
- rosettes
- various timbers that are traditionally used in these instruments
- surface finish materials such as:
 - lacquers
 - shellac
 - wax
 - oil
 - stripper
 - spirit stains
 - water stains.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including:
 - job sheets
 - cutting lists
 - plans
 - drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines

Standard operating procedures (SOPs) may include:
(Continued)

- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Repairs may include:

- restring
- tuning
- intonating
- neck adjustment
- action adjustment
- pickup height adjustment
- guitar polish
- fret polish
- refrets and fret dresses
- fingerboard clean and conditioning
- electronics cleaning
- machine head and nut inspection
- strap button/strap lock installation
- bridge and headstock repair
- pick-up installs
- reset acoustic bridge

Tools, jigs and equipment may include :

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- spindle sander
- band saw
- belt sander
- scrapers
- soldering iron
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges

Surface finish may include:

- bending
- distressing
- relicing
- antiquing.

Finishing may include:

- painting
- raw surface.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and interpret a work/job specification
 - Conduct operator maintenance on tools and equipment
 - Plan, prepare, repair and surface finish an acoustic guitar that complies with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Apply the quality and professional standards required when repairing the acoustic guitar.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the repair of acoustic guitars
 - specifications and work instructions
 - an acoustic guitar in need of repair.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to acoustic guitar instrument repair
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21836 Repair aerophone instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to repair aerophone instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in music industry organisations of all sizes. The repair of aerophone instruments, including indigenous, applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level. These skills and knowledge are to be used within the scope of the individual's job and authority.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for repair | <p>1.1. Work order is reviewed, confirmed and clarified with appropriate personnel.</p> <p>1.2. Applicable Occupational Health and Safety (OHS)/ Work Health and Safety (WHS), legislative and organisational requirements relevant to the repair of aerophone instruments are verified and complied with.</p> <p>1.3. Customer requirements are received and confirmed in accordance with enterprise procedures and analysed to determine repair feasibility.</p> <p>1.4. Climatic conditions of aerophone instrument storage is confirmed with customer.</p> <p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	1.6. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency.
2. Prepare for repair	<p>2.1. Aerophone instrument is cleaned and examined and required repairs are determined in accordance with customer's requirements and SOPs.</p> <p>2.2. Required materials for the repair of the aerophone instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.3. Required electroplating and soldering materials for the repair of the aerophone instrument are identified and acquired in accordance with SOPs.</p> <p>2.4. Tools, test and measurement instruments, consumables and other equipment required for the repair of the aerophone instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Repair instruments	<p>3.1. Tools and equipment are applied in the repair process in accordance with professional standards and SOPs.</p> <p>3.2. Materials for metal and/or wood based aerophone instruments are drilled, cut, bored, formed, turned, machined, bent, aligned and joined/soldered in accordance with professional standards and SOPs.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Checks of the quality of the repair process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the aerophone instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application and/or electroplating in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Repaired aerophone instrument surface is prepared for finishing in accordance with customer specifications and SOPs.</p>

ELEMENT	PERFORMANCE CRITERIA
	4.3. Repaired aerophone instrument surface is electroplated and painted in accordance with customer specifications and SOPs.
	4.4. Checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.
5. Finalise repair processes	5.1. Final checks and tests of the quality of the aerophone instrument repairs are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.
	5.2. Repair and other records are completed in accordance with SOPs.
	5.3. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - confirm work requirements and specifications
 - coordinate work with supervisor, other workers and customers
 - report work outcomes and problems
 - maintain quality records related to instrument repair.
- Literacy and numeracy skills to:
 - use mathematical ideas and techniques to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Problem solving skills to:
 - recognise and respond to circumstances outside instructions or personal competence
 - identify, anticipate and respond to faults in timber, metal and/or repair components
 - work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity.
- Plan and organise activities to:
 - prepare and layout own worksite
 - plan own work schedule within the given task parameters
 - obtain and use tools and materials to avoid any backtracking, work flow interruptions or wastage.
- Technology skills to:
 - use instrument making tools and materials with repairing techniques
 - use the workplace technology related to the selection and assembly of repair components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making aerophone instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of aerophone repair tools and equipment
 - Materials technology and information related to the repair of aerophone instruments
 - Faults in timber, metal, materials and/or repair components
 - Glue chemistry and its effect on aerophone instrument components and finished surfaces
 - The impact of instrument structure on sound quality
 - Instrument sensitivity to differing environmental conditions.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work order may include:

- customers' requirements
- repair specification
- historical repair data
- manufacturers specific data
- design specific data
- material tolerances and specification data
- repair process
- specific materials to be used
- finish requirements.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- requirements may include the use of:
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHs
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance, procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use, maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Customer may include:

- touring artists
- domestic artists
- aerophone instrument enthusiasts
- collectors.

Materials may include:

- various timbers that are traditionally used in these instruments
- electroplating and soldering materials required for different metals that comprise the components of aerophone instruments.

Materials may include:
(Continued)

- surface finish materials such as:
 - lacquers
 - shellac
 - paint
 - wax
 - oil
 - stripper
 - spirit stains
 - water stains.
- animal, plant and natural fibre materials such as:
 - skins
 - bone
 - stone
 - twine
 - reeds
 - wood
 - wax.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including:
 - job sheets
 - cutting lists
 - plans
 - drawings
 - designs.
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility

Standard operating procedures (SOPs) may include:
(Continued)

- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Repairs may include:

- tuning
- intonating
- polishing
- finger key clean and conditioning
- key bending
- reed replacement
- machine bell and bow repair
- strap installation
- mouthpiece repair
- joining components
- corrosion removal.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers
- electrodes
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
 - die and punch
 - dappling pin and block
 - swedging tools
 - taps & dies
 - drills
 - lathe
 - press
 - milling machine
 - general woodworking equipment
- direct flame and other heating devices

Joined may include:

- soldered
- plant and animal based adhesive
- synthetic adhesive
- swedged
- wrapped
- pinned
- wedged.

Surface finish may include:

- bending
- polishing
- antiquing.

Finishing may include:

- painting
- electroplating
- raw surface.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and interpret a work/job specification
 - conduct operator maintenance on tools and equipment
 - plan, prepare, repair and surface finish an aerophone instrument that complies with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Apply the quality and professional standards required when repairing the aerophone instrument.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the repair of aerophone instruments
 - specifications and work instructions
 - an aerophone instrument in need of repair.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to aerophone instrument repair
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21834 Repair brass instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to repair brass instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in music industry organisations of all sizes. The repair of brass instruments applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level. These skills and knowledge are to be used within the scope of the individual's job and authority.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for repair | <p>1.1. Work order is reviewed, confirmed and clarified with appropriate personnel.</p> <p>1.2. Applicable Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements relevant to the repair of brass instruments are verified and complied with.</p> <p>1.3. Customer requirements are received and confirmed in accordance with enterprise procedures and analysed to determine repair feasibility.</p> <p>1.4. Climatic conditions of brass instrument storage is confirmed with customer.</p> <p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	1.6. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency.
2. Prepare for repair	<p>2.1. Brass instrument is cleaned and examined and required repairs are determined in accordance with customer's requirements and SOPs.</p> <p>2.2. Required materials for the repair of the brass instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.3. Required electroplating and soldering materials for the repair of the brass instrument are identified and acquired in accordance with SOPs.</p> <p>2.4. Tools, test and measurement instruments, consumables and other equipment required for the repair of the brass instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Repair instruments	<p>3.1. Tools and equipment are applied in the repair process in accordance with professional standards and SOPs.</p> <p>3.2. Materials are cut, formed, bent, aligned and joined/soldered in accordance with professional standards and SOPs.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Checks of the quality of the repair process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the brass instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application and/or electroplating in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Repaired brass instrument surface is prepared for finishing in accordance with customer specifications and SOPs.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise repair processes	4.3. Repaired brass instrument surface is electroplated and painted in accordance with customer specifications and SOPs.
	4.4. Checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.
	5.1. Final checks and tests of the quality of the brass instrument repairs are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.
	5.2. Repair and other records are completed in accordance with SOPs.
	5.3. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - confirm work requirements and specifications
 - coordinate work with supervisor, other workers and customers,
 - report work outcomes and problems
 - maintain quality records related to instrument repair.
- Literacy and numeracy skills to:
 - use mathematical ideas and techniques to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Problem solving skills to:
 - recognise and respond to circumstances outside instructions or personal competence
 - identify, anticipate and respond to faults in metal and/or repair components
 - work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity.
- Plan and organise activities to:
 - prepare and layout own worksite
 - plan own work schedule within the given task parameters
 - obtain and use tools and materials to avoid any backtracking, work flow interruptions or wastage.
- Technology skills to:
 - use instrument making tools and materials with repairing techniques
 - use the workplace technology related to the selection and assembly of repair components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making brass instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of brass repair tools and equipment
 - Materials technology and information related to the repair of brass instruments
 - Faults in metal and/or repair components
 - Glue chemistry and its effect on brass instrument components and finished surfaces
 - The impact of instrument structure on sound quality
 - Instrument sensitivity to differing environmental conditions.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work order may include:

- customers' requirements
- repair specification
- historical repair data
- manufacturers specific data
- design specific data
- material tolerances and specification data
- repair process
- specific materials to be used
- finish requirements.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- requirements may include the use of:
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHs
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Customer may include:

- touring artists
- domestic artists
- brass instrument enthusiasts
- collectors.

Materials may include:

- various metals that are traditionally used in these instruments
- electroplating and soldering materials required for different metals that comprise the components of brass instruments

Materials may include:
(Continued)

- brass components part such as:
 - bell
 - valve
 - body
 - slides (trombone)
 - mouthpiece
 - tuning slides
 - mutes
 - conical tubing
- surface finish materials such as:
 - paint
 - oil
 - stripper
 - spirit stains
 - water stains.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including:
 - job sheets
 - cutting lists
 - plans
 - drawings
 - designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals

Standard operating procedures (SOPs) may include:
(Continued)

- quality and continuous improvement processes and standards
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Repairs may include:

- tuning
- intonating
- polishing
- rotary valve clean and conditioning
- key bending
- machine bell repair
- tuning slide replacement
- mouthpiece repair
- joining broken solder joints
- corrosion removal.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saw
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers

- Tools and equipment** may include:
- electrodes
 - special tools such as:
 - blocks
 - cradles
 - contour and step gauges
 - soldering irons (all types)
 - mandrels
 - dollys
 - hammers
 - anvil
 - lathe
 - die and punch
 - direct flame and other heating devices.

- Surface finish** may include:
- bending
 - polishing
 - antiquing.

- Finishing** may include:
- painting
 - electroplating
 - raw surface.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and interpret a work/job specification
 - Conduct operator maintenance on tools and equipment
 - Plan, prepare, repair and surface finish a brass instrument that complies with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Apply the quality and professional standards required when repairing the brass instrument.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the repair of brass instruments
 - specifications and work instructions
 - a brass instrument in need of repair.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to brass instrument repair
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21830 Repair electric guitars

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to repair electric guitars, including vintage instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in music industry organisations of all sizes. The repair of electric guitars applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level. These skills and knowledge are to be used within the scope of the individual's job and authority.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for repair | <p>1.1. Work order is reviewed, confirmed and clarified with appropriate personnel.</p> <p>1.2. Applicable Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements relevant to the repair of electric guitars are verified and complied with.</p> <p>1.3. Customer requirements are received and confirmed in accordance with enterprise procedures and analysed to determine repair feasibility.</p> <p>1.4. Climatic conditions of guitar storage is confirmed with customer.</p> <p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	<p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> <p>1.6. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency.</p>
2. Prepare for repair	<p>2.1. Electric guitar is cleaned and examined and required repairs are determined in accordance with customer's requirements and SOPs</p> <p>2.2. Required materials for the repair of the electric guitar are acquired, inspected and tested in accordance with SOPs.</p> <p>2.3. Required electroplating and soldering materials for the repair of the electric guitar are identified and acquired in accordance with SOPs.</p> <p>2.4. Required jigs and templates for the repair of the electric guitar are identified and acquired in accordance with SOPs.</p> <p>2.5. Tools, test and measurement instruments, consumable and other equipment required for the repair of the electric guitar are identified, selected and obtained in accordance with SOPs.</p>
3. Repair instruments	<p>3.1. Tools, jigs and equipment are applied in the repair process in accordance with professional standards and SOPs.</p> <p>3.2. Materials are cut, formed, aligned and joined/soldered in accordance with professional standards and SOPs.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Checks of the quality of the repair process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the electric guitar is compliant with the specifications and professional standards.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Repaired electric guitar surface is prepared for finishing in accordance with customer specifications and SOPs.</p> <p>4.3. Repaired electric guitar surface is finished and refinished in accordance with customer specifications and SOPs.</p> <p>4.4. Checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>
5. Finalise repair processes	<p>5.1. Final checks and tests of the quality of the electric guitar repairs are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>5.2. Repair and other records are completed in accordance with SOPs.</p> <p>5.3. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - confirm work requirements and specifications
 - coordinate work with supervisor, other workers and customers
 - report work outcomes and problems
 - maintain quality records related to instrument repair.
- Literacy and numeracy skills to:
 - use mathematical ideas and techniques to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Problem solving skills to:
 - recognise and respond to circumstances outside instructions or personal competence
 - identify, anticipate and respond to faults in timber and/or repair components
 - work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity.
- Plan and organise activities to:
 - prepare and layout own worksite
 - plan own work schedule within the given task parameters
 - obtain and use tools and materials to avoid any backtracking, work flow interruptions or wastage.
- Technology skills to:
 - use instrument making tools and materials with repairing techniques
 - use the workplace technology related to the selection and assembly of repair components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making electric guitars
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of guitar repair tools and equipment
 - Materials technology and information related to the repair of electric guitars
 - Faults in timber and/or repair components
 - Glue chemistry and its effect on electric guitar components and finished surfaces
 - The impact of instrument structure on sound quality
 - Guitar sensitivity to differing environmental conditions.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work order may include:

- customers' requirements
- repair specification
- historical repair data
- manufacturers specific data
- design specific data
- material tolerances and specification data
- repair process
- specific materials to be used
- finish requirements.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- requirements may include the use of:
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Customer may include:

- touring artists
- domestic artists
- guitar enthusiasts
- collectors.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nail
- dowels
- animal gut products
- nylon
- rosettes
- various timbers that are traditionally used in these instruments
- surface finish materials such as:
 - lacquers
 - shellac
 - wax
 - oil
 - stripper
 - spirit stains
 - water stains.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including:
 - job sheets
 - cutting lists
 - plans
 - drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility

Standard operating procedures (SOPs) may include:
(Continued)

- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Repairs may include:

- restring
- tuning
- intonating
- neck adjustment
- action adjustment
- pickup height adjustment
- guitar polish
- fret polish
- refrets and fret dresses
- fingerboard clean and conditioning
- electronics cleaning
- machine head and nut inspection
- strap button/strap lock installation.
- bridge and headstock repair
- pick-up installs
- reset electric bridge.

Tools, jigs and equipment
may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- spindle sander
- band saw
- belt sander
- scrapers
- soldering iron
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane.

Surface finish may include:

- bending
- distressing
- relicing
- antiquing.

Finishing may include:

- painting
- raw surface
- electroplating.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- Read and interpret a work/job specification
- Conduct operator maintenance on tools and equipment
- Plan, prepare, repair and surface finish an electric guitar that complies with legislation, regulations, standards, codes of practice and established safe practices and procedures
- Communicate effectively and work safely with others in the work area
- Apply the quality and professional standards required when repairing the electric guitar.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the repair of electric guitars
 - specifications and work instructions
 - an electric guitar in need of repair.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to electric guitar instrument repair
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended

VU21833 Repair percussion instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to repair percussion instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in music industry organisations of all sizes. The repair of percussion instruments applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level. These skills and knowledge are to be used within the scope of the individual's job and authority.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for repair | <p>1.1. Work order is reviewed, confirmed and clarified with appropriate personnel.</p> <p>1.2. Applicable Occupational Health and Safety (OHS)/ Work Health and Safety (WHS), legislative and organisational requirements relevant to the repair of percussion instruments are verified and complied with.</p> <p>1.3. Customer requirements are received and confirmed in accordance with enterprise procedures and analysed to determine repair feasibility.</p> <p>1.4. Climatic conditions of percussion instrument storage is confirmed with customer.</p> <p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	1.6. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency.
2. Prepare for repair	<p>2.1. Percussion instrument is cleaned and examined and required repairs are determined in accordance with customer's requirements and SOPs.</p> <p>2.2. Required materials for the repair of the percussion instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.3. Required electroplating and soldering materials for the repair of the percussion instrument are identified and acquired in accordance with SOPs.</p> <p>2.4. Tools, test and measurement instruments, consumables and other equipment required for the repair of the percussion instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Repair instruments	<p>3.1. Tools and equipment are applied in the repair process in accordance with professional standards and SOPs.</p> <p>3.2. Materials are cut, formed, aligned and joined/soldered in accordance with professional standards and SOPs.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Checks of the quality of the repair process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the percussion instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application and/or electroplating in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Repaired percussion instrument surface is prepared for finishing in accordance with customer specifications and SOPs.</p> <p>4.3. Repaired percussion instrument surface is electroplated and painted in accordance with customer specifications and SOPs.</p> <p>4.4. Checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise repair processes	<p>5.1. Final checks and tests of the quality of the percussion instrument repairs are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>5.2. Repair and other records are completed in accordance with SOPs.</p> <p>5.3. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - confirm work requirements and specifications
 - coordinate work with supervisor, other workers and customers
 - report work outcomes and problems
 - maintain quality records related to instrument repair.
- Literacy and numeracy skills to:
 - use mathematical ideas and techniques to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Problem solving skills to:
 - recognise and respond to circumstances outside instructions or personal competence
 - identify, anticipate and respond to faults in metal, timber, material and/or repair components
 - work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity.
- Plan and organise activities to:
 - prepare and layout own worksite
 - plan own work schedule within the given task parameters
 - obtain and use tools and materials to avoid any backtracking, work flow interruptions or wastage.
- Technology skills to:
 - use instrument making tools and materials with repairing techniques
 - use the workplace technology related to the selection and assembly of repair components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making percussion instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of percussion repair tools and equipment
 - Materials technology and information related to the repair of percussion instruments
 - Faults in timber, metal and/or repair components
 - Glue chemistry and its effect on percussion instrument components and finished surfaces
 - The impact of instrument structure on sound quality
 - Instrument sensitivity to differing environmental conditions.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work order may include:

- customers' requirements
- repair specification
- historical repair data
- manufacturers specific data
- design specific data
- material tolerances and specification data
- repair process
- specific materials to be used
- finish requirements.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers.

OHS/WHs requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- requirements may include the use of:
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Customer may include:

- touring artists
- domestic artists
- percussion instrument enthusiasts
- collectors.

Materials may include:

- various metals, plastics, skins and timbers that are traditionally used in these instruments
- electroplating and soldering materials required for different metals that comprise the components of percussion instruments
- percussion component parts such as:
 - tension rings
 - drumhead
 - screws
 - stands.
- surface finish materials such as:
 - paint
 - oil
 - stripper
 - spirit stains
 - water stains.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including:
 - job sheets
 - cutting lists
 - plans
 - drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals

Standard operating procedures (SOPs) may include:

- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Repairs may include:

- surface damage repairs
- electroplating
- tonal and pitch adjustment
- tensioning
- soldering broken joints/components
- felt and sleeve cymbal insertion
- wire and cable replacement
- drum head repairs.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saw
- power drills
- screwdrivers
- air compressor and hoses

Tools and equipment may include:
(Continued)

- clamps
- pincers
- electrodes
- soldering irons
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane
 - soldering irons (all types)
- direct flame and other heating devices.

Surface finish may include:

- bending
- polishing
- antiquing.

Finishing may include:

- painting
- electroplating
- raw surface.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and interpret a work/job specification
 - Conduct operator maintenance on tools and equipment
 - Plan, prepare, repair and surface finish a percussion instrument that complies with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Apply the quality and professional standards required when repairing the percussion instrument.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the repair of percussion instruments
 - specifications and work instructions
 - a percussion instrument in need of repair.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to percussion instrument repair
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21831 Repair special stringed instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to repair special stringed instruments, specifically banjos, mandolins and dulcimers, including antique or heritage instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in music industry organisations of all sizes. The repair of special stringed instruments applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level. These skills and knowledge are to be used within the scope of the individual's job and authority.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

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|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for repair | <p>1.1. Work order is reviewed, confirmed and clarified with appropriate personnel.</p> <p>1.2. Applicable Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements relevant to the repair of special stringed instruments are verified and complied with.</p> <p>1.3. Customer requirements are received and confirmed in accordance with enterprise procedures and analysed to determine repair feasibility.</p> <p>1.4. Climatic conditions of special stringed instrument storage is confirmed with customer.</p> <p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	1.6. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency.
2. Prepare for repair	<p>2.1. Special stringed instrument is cleaned and examined and required repairs are determined in accordance with customer's requirements and SOPs.</p> <p>2.2. Required materials for the repair of the special stringed instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.3. Required electroplating and soldering materials for the repair of the special stringed instrument are identified and acquired in accordance with SOPs.</p> <p>2.4. Required jigs and templates for the repair of the special stringed instrument are identified and acquired in accordance with SOPs.</p> <p>2.5. Tools, test and measurement instruments, consumables and other equipment required for the repair of the special stringed instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Repair instruments	<p>3.1. Tools, jigs and equipment are applied in the repair process in accordance with professional standards and SOPs.</p> <p>3.2. Materials are cut, formed, aligned and joined/soldered in accordance with professional standards and SOPs.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Checks of the quality of the repair process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the special stringed instrument is compliant with the specifications and professional standards.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Repaired special stringed instrument surface is prepared for finishing in accordance with customer specifications and SOPs.</p> <p>4.3. Repaired special stringed instrument surface is finished and refinished in accordance with customer specifications and SOPs.</p> <p>4.4. Checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>
5. Finalise repair processes	<p>5.1. Final checks and tests of the quality of the special stringed instrument repairs are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>5.2. Repair and other records are completed in accordance with SOPs.</p> <p>5.3. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - confirm work requirements and specifications
 - coordinate work with supervisor, other workers and customers
 - report work outcomes and problems
 - maintain quality records related to instrument repair.
- Literacy and numeracy skills to:
 - use mathematical ideas and techniques to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Problem solving skills to:
 - recognise and respond to circumstances outside instructions or personal competence
 - identify, anticipate and respond to faults in timber and/or repair components
 - work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity.
- Plan and organise activities to:
 - prepare and layout own worksite
 - plan own work schedule within the given task parameters
 - obtain and use tools and materials to avoid any backtracking, work flow interruptions or wastage.
- Technology skills to:
 - use instrument making tools and materials with repairing techniques
 - use the workplace technology related to the selection and assembly of repair components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making special stringed instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of special stringed instrument repair tools and equipment
 - Materials technology and information related to the repair of special stringed instruments
 - Faults in timber and/or repair components
 - Glue chemistry and its effect on special stringed instrument components and finished surfaces
 - The impact of instrument structure on sound quality
 - Special stringed instrument sensitivity to differing environmental conditions.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work order may include:

- customers' requirements
- repair specification
- historical repair data
- manufacturers specific data
- design specific data
- material tolerances and specification data
- repair process
- specific materials to be used
- finish requirements.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- requirements may include the use of:
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- award and enterprise agreements
- industrial relations
- Australian Standards

Legislative requirements may include:
(Continued)

- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Customer may include:

- touring artists
- domestic artists
- special stringed instrument enthusiasts
- collectors.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nail
- dowels
- animal gut products
- nylon
- rosettes
- various timbers that are traditionally used in these instruments
- surface finish materials such as:
 - lacquers
 - shellac
 - wax
 - oil
 - stripper
 - spirit stains
 - water stains.

Standard operating procedures (SOPs) may include

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including:
 - job sheets
 - cutting lists
 - plans
 - drawings and designs

Standard operating procedures (SOPs) may include:
(Continued)

- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Repairs may include:

- restring
- tuning
- intonating
- neck adjustment
- action adjustment
- pickup height adjustment
- special stringed instrument polish
- fingerboard clean and conditioning
- electronics cleaning
- machine head and nut inspection
- bridge and headstock repair
- pick-up installs
- reset bridge.

Tools, jigs and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- spindle sander
- band saw
- belt sander
- scrapers
- soldering iron
- power saws
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane.

Surface finish may include:

- bending
- distressing
- relicing
- antiquing.

Finishing may include:

- painting
- raw surface
- electroplating.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and interpret a work/job specification
 - Conduct operator maintenance on tools and equipment
 - Plan, prepare, repair and surface finish a special stringed instrument that complies with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Apply the quality and professional standards required when repairing the special stringed instrument.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the repair of special stringed instruments
 - specifications and work instructions
 - a special stringed instrument in need of repair.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to special stringed instrument repair
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21832 Repair stringed instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to repair stringed instruments, specifically violins, violas and cellos, including antique or heritage instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in music industry organisations of all sizes. The repair of stringed instruments applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level. These skills and knowledge are to be used within the scope of the individual's job and authority.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for repair | <p>1.1. Work order is reviewed, confirmed and clarified with appropriate personnel.</p> <p>1.2. Applicable Occupational Health and Safety (OHS)/Work Health and Safety (WHS), legislative and organisational requirements relevant to the repair of stringed instruments are verified and complied with.</p> <p>1.3. Customer requirements are received and confirmed in accordance with enterprise procedures and analysed to determine repair feasibility.</p> <p>1.4. Climatic conditions of stringed instrument storage is confirmed with customer.</p> <p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> <p>1.6. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency.</p> |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
2. Prepare for repair	<p>2.1. Stringed instrument is cleaned and examined and required repairs are determined in accordance with customer's requirements and SOPs.</p> <p>2.2. Required materials for the repair of the stringed instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.3. Required electroplating and soldering materials for the repair of the stringed instrument are identified and acquired in accordance with SOPs.</p> <p>2.4. Required jigs and templates for the repair of the stringed instrument are identified and acquired in accordance with SOPs.</p> <p>2.5. Tools, test and measurement instruments, consumables and other equipment required for the repair of the stringed instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Repair instruments	<p>3.1. Tools, jigs and equipment are applied in the repair process in accordance with professional standards and SOPs.</p> <p>3.2. Materials are cut, formed, aligned and joined/soldered in accordance with professional standards and SOPs.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Checks of the quality of the repair process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the stringed instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Repaired stringed instrument surface is prepared for finishing in accordance with customer specifications and SOPs.</p> <p>4.3. Repaired stringed instrument surface is finished and refinished in accordance with customer specifications and SOPs.</p> <p>4.4. Checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise repair processes	<p>5.1. Final checks and tests of the quality of the stringed instrument repairs are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.</p> <p>5.2. Repair and other records are completed in accordance with SOPs.</p> <p>5.3. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.</p>

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - confirm work requirements and specifications
 - coordinate work with supervisor, other workers and customers
 - report work outcomes and problems
 - maintain quality records related to instrument repair.
- Literacy and numeracy skills to:
 - use mathematical ideas and techniques to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Problem solving skills to:
 - recognise and respond to circumstances outside instructions or personal competence
 - identify, anticipate and respond to faults in timber and/or repair components
 - work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity.
- Plan and organise activities to:
 - prepare and layout own worksite
 - plan own work schedule within the given task parameters
 - obtain and use tools and materials to avoid any backtracking, work flow interruptions or wastage.
- Technology skills to:
 - use instrument making tools and materials with repairing techniques
 - use the workplace technology related to the selection and assembly of repair components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHs legislation, regulations, standards and codes of practice relevant to material use in making stringed instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of stringed instrument repair tools and equipment
 - Materials technology and information related to the repair of stringed instruments
 - Faults in timber and/or repair components
 - Glue chemistry and its effect on stringed instrument components and finished surfaces
 - The impact of instrument structure on sound quality
 - Stringed instrument sensitivity to differing environmental conditions.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work order may include:

- customers' requirements
- repair specification
- historical repair data
- manufacturers specific data
- design specific data
- material tolerances and specification data
- repair process
- specific materials to be used
- finish requirements.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers.

OHS/WHS requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- requirements may include the use of:
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Customer may include:

- touring artists
- domestic artists
- stringed instrument enthusiasts
- collectors.

Materials may include:

- timber
- veneers
- manufactured board
- glues
- screws
- nail
- dowels
- animal gut products
- nylon
- rosettes
- various timbers that are traditionally used in these instruments
- surface finish materials such as:
 - lacquers
 - shellac
 - wax
 - oil
 - stripper
 - spirit stains
 - water stains.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including:
 - job sheets
 - cutting lists
 - plans
 - drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHs
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Repairs may include:

- restring
- tuning
- intonating
- neck adjustment
- action adjustment
- pickup height adjustment
- stringed instrument polish
- fingerboard clean and conditioning
- electronics cleaning
- machine head and nut inspection
- bridge and headstock repair
- pick-up installs
- reset bridge.

Tools jigs and equipment
may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- spindle sander
- band saw
- belt sander
- scrapers
- soldering iron
- power saws
- power drills
- screwdrivers
- air compressor and hoses

Tools jigs and equipment

may include:

(Continued)

- clamps
- pincers
- special tools such as:
 - side moulds
 - blocks
 - cramps
 - cradles
 - contour and step gauges
 - arching and thickness plane.

Surface finish may include:

- bending
- distressing
- relicing
- antiquing.

Finishing may include:

- painting
- raw surface
- electroplating.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and interpret a work/job specification
 - Conduct operator maintenance on tools and equipment
 - Plan, prepare, repair and surface finish a stringed instrument that complies with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Apply the quality and professional standards required when repairing the stringed instrument.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the repair of stringed instruments
 - specifications and work instructions
 - a stringed instrument in need of repair.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to stringed instrument repair
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

VU21835 Repair woodwind instruments

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to repair woodwind instruments.
Employability Skills	This unit contains employability skills.
Pre-requisite unit(s)	Nil.
Application of the Unit	This unit supports the attainment of skills and knowledge required for competent workplace performance in music industry organisations of all sizes. The repair of woodwind instruments applies to a relevant workplace environment and involves application of skills and knowledge at a tradesperson level. These skills and knowledge are to be used within the scope of the individual's job and authority.

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Plan for repair | <p>1.1. Work order is reviewed, confirmed and clarified with appropriate personnel.</p> <p>1.2. Applicable Occupational Health and Safety (OHS)/ Work Health and Safety, legislative and organisational requirements relevant to the repair of woodwind instruments are verified and complied with.</p> <p>1.3. Customer requirements are received and confirmed in accordance with enterprise procedures and analysed to determine repair feasibility.</p> <p>1.4. Climatic conditions of woodwind instrument storage is confirmed with customer.</p> <p>1.5. Specifications are drawn up and required materials are identified in accordance with standard operating procedures (SOPs).</p> |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

ELEMENT	PERFORMANCE CRITERIA
	1.6. Communication with others involved with the work is established and maintained to ensure efficient workflow coordination, personnel cooperation and safety throughout the application of this competency.
2. Prepare for repair	<p>2.1. Woodwind instrument is cleaned and examined and required repairs are determined in accordance with customer's requirements and SOPs.</p> <p>2.2. Required materials for the repair of the woodwind instrument are acquired, inspected and tested in accordance with SOPs.</p> <p>2.3. Required electroplating and soldering materials for the repair of the woodwind instrument are identified and acquired in accordance with SOPs.</p> <p>2.4. Tools, test and measurement instruments, consumables and other equipment required for the repair of the woodwind instrument are identified, selected and obtained in accordance with SOPs.</p>
3. Repair instruments	<p>3.1. Tools and equipment are applied in the repair process in accordance with professional standards and SOPs.</p> <p>3.2. Materials for metal and/or wood based woodwind instruments are cut, bored, formed, bent, turned, aligned and joined/soldered in accordance with professional standards and SOPs.</p> <p>3.3. Advice and assistance is sought from others as required.</p> <p>3.4. Checks of the quality of the repair process are undertaken in accordance with professional standards and practices and quality procedures.</p> <p>3.5. Tests and observations are interpreted to confirm the woodwind instrument is compliant with the specifications and professional standards.</p>
4. Finish surfaces	<p>4.1. Surface finish materials are prepared for application and/or electroplating in accordance with manufacturer specifications and SOPs.</p> <p>4.2. Repaired woodwind instrument surface is prepared for finishing in accordance with customer specifications and SOPs.</p> <p>4.3. Repaired woodwind instrument surface is electroplated and painted in accordance with customer specifications and SOPs.</p>

ELEMENT	PERFORMANCE CRITERIA
5. Finalise repair processes	4.4. Checks of the quality of the finishing process are undertaken in accordance with professional standards and practices and quality procedures.
	5.1. Final checks and tests of the quality of the woodwind instrument repairs are undertaken in accordance with customer specifications, professional standards and practices and quality procedures.
	5.2. Repair and other records are completed in accordance with SOPs.
	5.3. Waste and scrap material is removed for disposal and/or recycling in accordance with SOPs.

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Communication skills to:
 - confirm work requirements and specifications
 - coordinate work with supervisor, other workers and customers
 - report work outcomes and problems
 - maintain quality records related to instrument repair.
- Literacy and numeracy skills to:
 - use mathematical ideas and techniques to correctly complete measurements, calculate area and volume and estimate other material requirements.
- Problem solving skills to:
 - recognise and respond to circumstances outside instructions or personal competence
 - identify, anticipate and respond to faults in timber, metal and/or repair components
 - work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity.
- Plan and organise activities to:
 - prepare and layout own worksite
 - plan own work schedule within the given task parameters
 - obtain and use tools and materials to avoid any backtracking, work flow interruptions or wastage.
- Technology skills to:
 - use instrument making tools and materials with repairing techniques
 - use the workplace technology related to the selection and assembly of repair components including computers, measuring devices and assembly systems.

Required knowledge

- Legislation and procedures:
 - State or Territory OHS/WHS legislation, regulations, standards and codes of practice relevant to material use in making woodwind instruments
 - Organisational and site standards, requirements, policies and procedures for material and tool usage
 - Environmental protection requirements relating to the disposal of waste material.
- Problem identification and resolution within job parameters:
 - Types of woodwind repair tools and equipment
 - Materials technology and information related to the repair of woodwind instruments
 - Faults in timber, metal and/or repair components
 - Glue chemistry and its effect on woodwind instrument components and finished surfaces
 - The impact of instrument structure on sound quality
 - Instrument sensitivity to differing environmental conditions.

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Work order may include:

- customers' requirements
- repair specification
- historical repair data
- manufacturers specific data
- design specific data
- material tolerances and specification data
- repair process
- specific materials to be used
- finish requirements.

Appropriate personnel may include:

- supervisors
- suppliers
- clients
- colleagues and managers.

OHS/WHs requirements may include:

- Commonwealth, State or Territory legislation and regulations
- organisational safety policies and procedures
- requirements may include the use of:
 - personal protective equipment and clothing
 - fire fighting equipment
 - First Aid equipment
- hazard and risk control and elimination of hazardous materials and substances
- manual handling including lifting and carrying.

Legislative requirements may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS/WHS
- environmental protection
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care and heritage.

Organisational requirements may include:

- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- equipment use
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Customer may include:

- touring artists
- domestic artists
- woodwind instrument enthusiasts
- collectors.

Materials may include:

- various metals and timbers that are traditionally used in these instruments
- electroplating and soldering materials required for different metals that comprise the components of woodwind instruments
- woodwind parts such as:
 - keys
 - shafts
 - pillars
 - posts
 - shanks
 - rings
 - crooks
 - ferrules
 - bezels
 - garlands
 - mounts
 - spring
 - pad
 - ring
 - headpiece
 - body
 - joint
 - upper joint
 - lower joint
 - centre joint
 - bell
 - ligature
 - barrel
 - staple
 - reeds
 - cork
 - mount

Materials may include:
(Continued)

- cap
- adjustable stopper
- tuning slide
- boot joint
- vent
- lip
- plate.
- surface finish materials such as:
 - lacquers
 - shellac
 - paint
 - wax
 - oil
 - stripper
 - spirit stains
 - water stains.

Standard operating procedures (SOPs) may include:

- workplace procedures relating to:
 - the use of materials
 - the use and operation of tools and equipment and PPE
 - reporting and communications
- workplace instructions including:
 - job sheets
 - cutting lists
 - plans
 - drawings and designs
- manufacturer specifications and operational procedures
- legal, organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS/WHS
- emergency and evacuation
- ethical standards
- recording and reporting
- access and equity principles and practices
- maintenance and storage
- environmental management (waste disposal, recycling and re-use guidelines).

Repairs may include:

- tuning
- intonating
- polishing
- head cork adjustment
- finger key clean and conditioning
- octave key bending repair
- reed replacement
- machine bell and bow
- mouthpiece repair
- neck strap installation
- body alignment
- corrosion removal.

Tools and equipment may include:

- measuring tapes or rules
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws
- power saw
- power drills
- screwdrivers
- air compressor and hoses
- clamps
- pincers
- electrodes
- special tools such as:
 - side moulds
 - blocks

Tools and equipment may include:
(Continued)

- contour and step gauges
- arching and thickness plane
- soldering irons (all types)
- die and punch
- dappling pin and block
- swedging tools
- taps and dies
- direct flame and other heating devices
- drills
- lathe
- press
- milling machining
- general woodworking equipment.

Surface finish may include:

- bending
- polishing
- antiquing.

Finishing may include:

- painting
- electroplating
- raw surface.

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the accreditation submission.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

- Evidence of the following is essential:
 - Read and interpret a work/job specification
 - Conduct operator maintenance on tools and equipment
 - Plan, prepare, repair and surface finish a woodwind instrument that complies with legislation, regulations, standards, codes of practice and established safe practices and procedures
 - Communicate effectively and work safely with others in the work area
 - Apply the quality and professional standards required when repairing the woodwind instrument.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - materials, tools and equipment relevant to the repair of woodwind instruments
 - specifications and work instructions
 - a woodwind instrument in need of repair.

EVIDENCE GUIDE

- Method of assessment**
- A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:
 - direct observation of the candidate in a real workplace setting or simulated environment
 - written and oral questioning to test underpinning knowledge and its application to woodwind instrument repair
 - project activities that allow the candidate to demonstrate the application of knowledge and skills
 - review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate
 - Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.