



Shape of ACT Senior Secondary Curriculum

Furniture Making and Construction A/M/V

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DRAFT

1. PURPOSE

- 1.1 The *Shape of ACT Senior Secondary Curriculum: Furniture Making and Construction* will guide the writing of the updated *Furniture Making and Construction A/M/V* course.
- 1.2 This paper has been prepared following the deliberations of the *Furniture Making and Construction* writing team and also in consultation with Mirsad Ramic of the Canberra Institute of Technology.
- 1.3 The paper should be read in conjunction with *The Shape of the ACT Senior Secondary Curriculum* located at: http://www.bsss.act.edu.au/curriculum/bsss_course_development_consultation

2. INTRODUCTION

- 2.1 The *Furniture Making and Construction A/M/V* course will be the basis of planning, teaching, learning and assessment in ACT senior secondary schools.
- 2.2 The course makes provision for qualifications or a Statement of Attainment from the Furnishing Training Package. Refer to <https://training.gov.au/Training/Details/MSF>

3. BACKGROUND

- 3.1 The ACT Board of Senior Secondary Studies is reviewing the *Furniture Making A/M/V* curriculum in the five-year course development cycle of improvement and *Furniture Construction C* following the Final Recommendations of the Review of C and E Course Classifications.
- 3.2 *Furniture Making and Construction A/M/V* is a discreet subject that develops significant skills, knowledge, and understandings for working in the cabinet or furniture making industry, as well as a range of general capabilities to pursue a range of future occupations and life aspirations. In its developed form, this course will be contemporary and highly relevant to senior secondary students in the twenty-first century.
- 3.3 All courses under development are required to meet Board design specifications and to align with Board requirements for the senior secondary curriculum. These specifications align with ACARA course design specifications and provide teachers with flexibility to plan, teach and assess according to the needs and interests of their students.
- 3.4 The *Furniture Making and Construction A/M/V* course is a highly practical course, and to facilitate delivery, it is to be developed under the *Industry and Services Framework*, which prioritises practical applications. The Framework is located at:
http://www.bsss.act.edu.au/data/assets/pdf_file/0010/411022/Industry_and_Services_Framework_k.pdf

The rationale for this framework describes Industry and Services courses as:

Courses written under this framework provide students with knowledge, understanding and skills relating to areas of work inside the industry & services domains. In broad terms, students learn about industry practices, processes, procedures, and concepts such as technical information, materials, sustainability, equipment, and work health & safety (WHS). Students learn to analyse, problem solve, make decisions, and develop interpersonal and intrapersonal skills suitable for employment and further training.

- 3.5 All courses based on this framework should enable students to:
 - analyse industry practices, processes, and procedures
 - analyse technical information and specifications
 - understand materials and equipment
 - demonstrate industry specific literacy and numeracy skills
 - solve problems and use industry specific terminology
 - organise resources and material to create quality products and services

- work independently and collaboratively in accordance with WHS principles and industry standards
- communicate in a range of modes and mediums.

Courses developed under this Framework provide details of course content through the component units of the course. While this content will differ according to the particular course, all content will be chosen to enable students to work towards the achievement of the common and agreed goals of the Framework.

3.6 Concepts, knowledge and skills from the Industry and Services Framework:

Concepts and knowledge

- industry practices, processes, concepts, and procedures
- technical information and terminology
- materials and equipment
- Workplace Health and Safety Skills.

Skills

- analysing and evaluating
- problem solving
- decision making
- reflecting on own learning
- industry specific literacy and numeracy
- interpersonal and intrapersonal strategies communication.

3.7 All courses of study for the ACT Senior Secondary Certificate should enable students to develop essential capabilities for twenty-first century learners. The Australian Curriculum General Capabilities comprise an integrated and interconnected set of knowledge, skills, behaviours, and dispositions that students develop and use in their learning across the curriculum.

3.8 The importance of the senior years of schooling as a critical transition point for young people is highlighted in two extracts from the *Alice Springs (Mparntwe) Education Declaration*:

All Australian Governments and the education community need to support students in their senior years by helping them acquire the cognitive and social skills necessary for life after school and equip students to remain engaged in learning throughout life.

Australian Governments commit to working with the education community to provide a senior secondary education that equips young people with the skills, knowledge, values, and capabilities to succeed in employment, personal and civic life.

<https://docs.education.gov.au/documents/alice-springs-mparntwe-education-declaration>

4. THE CONTEXT OF THE ACT

4.1 Courses of study for the ACT Senior Secondary Certificate:

- provide a variety of pathways to meet different learning needs and encourage students to complete their secondary education
- enable students to develop the essential capabilities for twenty-first century learners
- empower students as active participants in their own learning
- engage students in contemporary issues relevant to their lives
- foster students' intellectual, social, and ethical development
- nurture students' wellbeing, and physical and spiritual development
- enable effective and respectful participation in a diverse society.

4.2 Each course of study:

- comprises an integrated and interconnected set of knowledge, skills, behaviours, and dispositions that students develop and use in their learning across the curriculum
- is based on a model of learning that integrates intended student outcomes, pedagogy, and assessment
- outlines teaching strategies which are grounded in learning principles and encompass quality teaching
- promotes intellectual quality, establishes a rich learning environment, and generates relevant connections between learning and life experiences
- provides formal assessment and certification of students' achievements.

4.3 In consideration of the ACT context, and in response to contemporary research and literature, the *Furniture Making and Construction* curriculum should include:

- a student-centred pedagogical approach
- the educational needs of young people with respect to furniture making skills, knowledge, processes, and industry practices
- procedures to safely undertake work in the furniture/cabinet making industry
- industry specific literacy and numeracy skills
- working collaboratively and independently
- communicating with others from diverse backgrounds and for a range of purposes
- the Industry and Services Framework and Achievement Standards
- the needs of different schools and sectors (government and non-government)
- awareness of local, national, and global issues
- aesthetic, ethical, environmental and sustainability factors.

5. AIMS OF THE FURNITURE MAKING AND CONSTRUCTION CURRICULUM

5.1 *Furniture Making and Construction A/M/V* is a course which develops the knowledge, skills and understanding required to undertake work and further study within the furniture, cabinet making and carpentry industry. Research into the furniture and cabinet making industry forecasts opportunities for skilled individuals to join an increasingly technological industry. According to *MSF Furnishing, Cabinet Making and Pathways Case for Change 2020* 'employers are looking for multi-skilled workers who are also willing to improve their technical skills.' As such the *Furniture Making and Construction A/M/V* course aims not only to develop the necessary technical skills needed for transition into industry but broader, cross disciplinary skills and attitudes that build foundations for future learning.

The *MSF Furnishing, Cabinet Making and Pathways Case for Change 2020* publication identifies that training aimed to develop the future workforce should 'balance traditional trade skills and, skills that address new technologies in qualifications. Traditional skills remain important but need to incorporate new technologies, changing workplace structures and contemporary attitudes to work.' *Furniture Making and Construction A/M/V* provides opportunities to develop knowledge, understanding and skills across existing and new technologies and work practices as to develop the attitudes and skills to meet industry expectations.

Consumer demands and government regulations impact the furniture, cabinet making and carpentry industry now more than ever and as such find necessary exploration in *Furniture Making and Construction A/M/V*. Uysal (2014) argues that 'New environmental regulations are dictating changes to reduce the environmental impact of furniture production around the world. Global producers must consider these regulations and rapidly adapt their production techniques, technology, and products, in order to remain viable trade partners'. In meeting government and market expectations students of *Furniture Making and Construction A/M/V* consider elements of design, material suitability and disposal. Uysal (2014) contends that 'cradle-to-grave approaches come into prominence, product life extension, durability, adaptability, ease of disassembly, timeless design, recyclability, and reusability must all be considered when designing new furniture — furniture that can be produced more economically and with a low environmental footprint.'

The *Furniture Making and Construction A/M/V* course aims to meet the current and emerging skills required of future employees within the furniture and cabinet making industry through investigating, exploring, and applying, where appropriate and possible, those identified in the *Skills Forecast and Proposed Schedule of Work 2018*. Skill sets in areas such as 'new technologies, CAD modelling, CNC machining, 3D printing, augmented reality, artificial intelligence, technical drawing, mobile technologies, soft STEM skills including creative thinking, problem solving and design skills, online and social media marketing, customer service, sales, aftermarket care and installation skill sets, business, contractual and e-commerce skills.' As evidenced by the breadth and depth of these skills, the modern furniture, cabinet making, and carpentry industry has extensive opportunities for skilled and creative individuals and as such these find necessity for delivery within *Furniture Making and Construction A/M/V*.

The *Furniture Making and Construction A/M/V* course addresses the growing demands of the furniture and cabinet making industry in overcoming 'difficulties in attracting skilled workers which is limiting growth in the industry due to a lack of applicants with Science, Technology, Engineering and Mathematics (STEM) and Language, Literacy and Numeracy (LLN) skills.' (*Skills Forecast and Proposed Schedule of Work 2018 – 2022*). Incorporating STEM opportunities and the integration of General Capabilities, particularly numeracy and literacy into the *Furniture Making and Construction A/M/V* course supports students in meeting industry and employer demands now and into the future.

5.2 The *Furniture Making and Construction A/M/V* course enables students to:

- develop furniture and cabinet making knowledge and understandings
- implement and undertake sustainable practices
- plan, adapt and implement furniture and cabinet making processes and procedures
- appraise furniture and cabinet making processes and suggest considered improvements

- develop skills in the selection of tools and equipment for furniture and cabinet making industry purposes
- develop numeracy, literacy, ICT, science, technology, engineering and mathematics knowledge and skills
- develop skills in the selection and use of furniture and cabinet making resources
- demonstrate critical and creative thinking and problem-solving abilities
- evaluate industry practices and processes
- explain and apply Workplace Health and Safety legislation, rules, and procedures in furniture and cabinet making contexts
- demonstrate personal and interpersonal skills, including teamwork and communication skills

6. STRUCTURE OF THE FURNITURE MAKING AND CONSTRUCTION CURRICULUM

RATIONALE

Furniture Making and Construction A/M/V develops the knowledge, understanding and skills that underpin the furniture making and cabinet making industry. Students investigate the processes and practices that are required in the production of furniture and cabinets, utilizing existing and new technologies to best place them for future opportunities within the industry.

Key concepts and ideas in the *Furniture Making and Construction A/M/V* course include the purpose of furniture and cabinet making business, occupations, future directions, and trends. Industry practices and processes for a variety of purposes are explored and applied across a range of applications and simulations and as such allows for investigation in a diverse range of occupations.

Through both individual and collaborative learning experiences, students learn to meet employer expectations and establish productive and appropriate work habits. Participating in industry specific tasks promotes the development of adaptable, competent, self-motivated individuals who consider safety and work collaboratively with colleagues.

Students develop skills communicating orally, and in written and graphical modes. They learn about industry practices and participate in essential processes including developing plans, applying specifications, communicating for purpose, calculations and the use of specialised machinery and tools. They reflect on their own and others practices in meeting desired outcomes and evaluate learning to make considered improvement.

Students plan, select, and organize materials to achieve desired furniture and cabinet making outcomes when planning and producing projects, taking into consideration sustainable practices and environmental considerations. They develop relevant technical, vocational, and interpersonal capabilities suitable for employment and further training in the furniture and cabinet making industry. This course provides opportunities for the development of employability skills such as communication and teamwork which are transferable to other industry areas. Undertaking *Furniture Making and Construction A/M/V* develops transferable skills relevant to further education and employment.

Furniture Making and Construction A/M/V makes provision for qualifications or a Statement of Attainment from the Furnishing Training Package. Refer to <https://training.gov.au/Training/Details/MSF>.

UNITS

(May be studied in any order)

Tools and Components

Students explore the potential and practical limits of traditional and emerging tools and components used in the furniture and cabinet making industry. They analyse the successes and failures of products and processes developed to fabricate products using those tools. They develop an understanding of tools their set up, use, maintenance and applications considering safe practice and WHS. Students investigate a variety of tools and components used in furniture or cabinet making applications and apply to chosen purposes. They apply a variety of skills in the use of components, tools, and machinery in the production of a furniture or cabinet making project with adherence to WHS practices and procedures.

Furniture Making

Students design and plan for furniture making. Students investigate and explore traditional and modern furniture production and assembly systems and techniques, including their associated environmental and sustainability considerations. They analyse plans and procedures to ensure the efficient production of furniture. They develop skills and knowledge in the planning and production of furniture products. They explore and utilise technology for design purposes and generate plans and schematics using technical drawing applications with measurements to assist construction. They apply furniture production skills and knowledge in the completion and evaluation of a furniture project with adherence to WHS practices and procedures.

Cabinet Making

Students design and plans for cabinet making. Students investigate and explore traditional and modern cabinet production and assembly systems and techniques, including their associated environmental and sustainability considerations. They develop skills and knowledge in the planning and production of cabinets. They explore and utilise appropriate technology used throughout all stages of cabinet construction. They apply cabinet production skills and knowledge in the completion and evaluation of a cabinet making project with adherence to WHS practices and procedures.

Materials and Design

Students investigate a variety of traditional and modern materials for different purposes used in the furniture and cabinet making industry. They analyse the advantages of different materials in making successful furniture and cabinetry. They develop knowledge regarding material properties and finishing techniques including their benefits, preparation, and environmental considerations, evaluating these for use. Students apply their knowledge of a variety of materials and finishing techniques to a project using appropriate industry practices, with adherence to WHS practices and procedures.

Independent Study

An Independent Study unit has an important place in senior secondary courses. It is a valuable pedagogical approach that empowers students to make decisions about their own learning. An Independent Study unit can be proposed by an individual student for their own independent study and negotiated with their teacher. The program of learning for an Independent Study unit must meet the unit goals and content descriptions as they appear in the course.

Independent study units are only available to individual students in Year 12 who have completed at least three standard 1.0 units from the course. A student can only study a maximum of one Independent Study unit in each course.

An Independent Study unit requires the principal's written approval.

Please note: Training Package requirements for students seeking VET qualifications through the Furnishing Training Package (MSF) must still be met.

7. CONSIDERATIONS

7.1 Incorporating a futures orientation

The Future of Education and Skills Education 2030 stresses the importance of being future focused in the development of curriculum for schools. The *Furniture Making and Construction A/M/V* course has a futures orientation in addressing the growing need for young people to be innovative, responsible, and aware:

To prepare for 2030, people should be able to think creatively, develop new products and services, new jobs, new processes and methods, new ways of thinking and living, new enterprises, new sectors, new business models and new social models. Increasingly, innovation springs not from individuals thinking and working alone, but through cooperation and collaboration with others to draw on existing knowledge to create new knowledge. The constructs that underpin the competency include adaptability, creativity, curiosity, and open-mindedness.

[http://www.oecd.org/education/2030-project/contact/E2030 Position Paper \(05.04.2018\).pdf](http://www.oecd.org/education/2030-project/contact/E2030%20Position%20Paper%20(05.04.2018).pdf)

The course does more than prepare students for the world of work. It enables students to develop the essential capabilities for twenty-first century learners:

Education has a vital role to play in developing the knowledge, skills, attitudes, and values that enable people to contribute to and benefit from an inclusive and sustainable future. Learning to form clear and purposeful goals, work with others with different perspectives, find untapped opportunities and identify multiple solutions to big problems will be essential in the coming years. Education needs to aim to do more than prepare young people for the world of work; it needs to equip students with the skills they need to become active, responsible, and engaged citizens.

[http://www.oecd.org/education/2030-project/contact/E2030 Position Paper \(05.04.2018\).pdf](http://www.oecd.org/education/2030-project/contact/E2030%20Position%20Paper%20(05.04.2018).pdf)

7.2 Furniture Making and Construction curriculum

Furniture Making and Construction A/M/V has an important place in the ACT senior secondary curriculum. The curriculum promotes problem-solving and decision-making, and in studying *Furniture Making A/M/V* students are active participants in their own learning. Students are challenged to think about and respond to their environment and work practices. Their personal and social development is fostered through working independently and collaboratively, and in the development of communication skills and intercultural awareness.

7.3 Equity and opportunity

The *Furniture Making and Construction A/M/V* curriculum is inclusive of students' needs and interests. It provides flexibility and choice for teachers and students. The factors that influence this choice include school and community contexts, local community learning opportunities, contemporary and local issues, and available learning resources.

7.4 Role of digital technologies

Students and teachers integrate a growing range of online information, tools, and applications. These include digitised online materials such as, books, images, examples of furniture from museum collections, online plans, and apps as well as other online resources including design software, workplace communication systems, and research applications.

7.5 Clarity of curriculum

The curriculum is substantial and flexible. It is sufficiently rich and descriptive to guide teachers with limited experience but avoids excessive prescription that would hamper experienced teachers from exercising their skills. The curriculum document is expressed clearly in terms that are accessible to a new teacher, while allowing all teachers to enhance it with their interests and expertise.

7.6 Breadth and depth of study

Content descriptions specify the knowledge, understanding and skills that students are expected to learn and that teachers are expected to teach. Teachers are required to develop a program of learning that allows students to demonstrate all content descriptions.

A program of learning is what a college provides to implement the course for a subject meeting students' needs and interests. It is at the discretion of the teacher to emphasis some content descriptions over others. The teacher may teach additional (not listed) content if it meets the specific unit goals providing that it does not duplicate content in other units.

7.7 The nature of the learner

The course addresses the needs of diverse learners and caters for Accredited (A) and Modified (M) levels of study.

7.8 General capabilities

Skills and understanding related to numeracy, literacy and ICT are further developed and used in *Furniture Making and Construction* as are problem solving and creativity. Critical and creative thinking are developed when students explore problems, develop innovative ideas, generate solutions, and evaluate and refine their ideas. They develop personal and social capabilities while working collaboratively and independently and build on self-management skills.

7.9 Cross curriculum perspectives

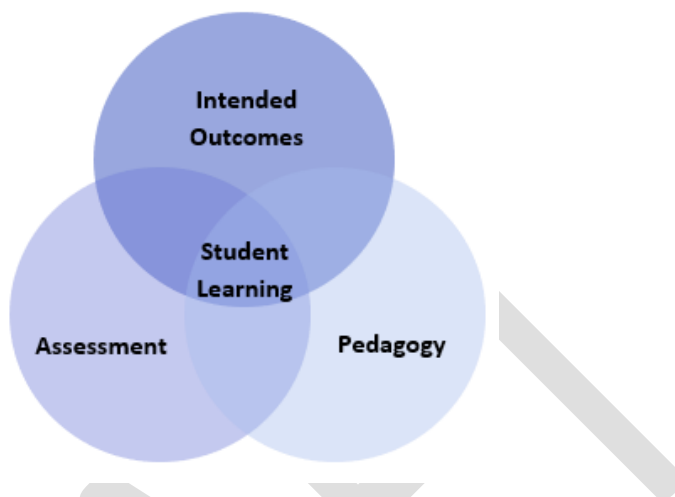
Each of the perspectives, Aboriginal and Torres Strait Islander histories and cultures, Asia and Australia's engagement with Asia, and Sustainability are represented in ways that are appropriate to in the course.

8. PEDAGOGY AND ASSESSMENT

The underpinning beliefs and learning principles for the development of the ACT Board of Senior Secondary School curriculum as are follows:

8.1 Underpinning beliefs

- All students are able to learn
- Learning is a partnership between students and teachers
- Teachers are responsible for advancing student learning.



8.2 Learning Principles

1. Learning builds on existing knowledge, understandings, and skills.
(Prior knowledge)
2. When learning is organised around major concepts, principles, and significant real-world issues, within and across disciplines, it helps students make connections and build knowledge structures.
(Deep knowledge and connectedness)
3. Learning is facilitated when students actively monitor their own learning and consciously develop ways of organising and applying knowledge within and across contexts.
(Metacognition)
4. Learners' sense of self and motivation to learn affects learning.
(Self-concept)
5. Learning needs to take place in a context of high expectations.
(High expectations)
6. Learners learn in different ways and at different rates.
(Individual differences)
7. Different cultural environments, including the use of language, shape learners' understandings and the way they learn.
(Socio-cultural effects)
8. Learning is a social and collaborative function as well as an individual one.
(Collaborative learning)
9. Learning is strengthened when learning outcomes and criteria for judging learning are made explicit and when students receive frequent feedback on their progress.
(Explicit expectations and feedback).

9. CONCLUSION

The *Furniture Making and Construction A/M/V* course is to be developed under the *Industry and Services Framework*. Students develop an understanding of the furniture and cabinet making industry. They learn to analyse, problem solve, and create solutions. The course equips students to engage confidently with appropriate technologies and to communicate appropriately to different audiences in a range of mediums. Students work both independently and collaboratively and develop interpersonal and intrapersonal skills suitable for employment and further training.

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11. FURTHER READING

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