### EDTE399 Assessment Task 1

#### Introduction:

Port Hacking High School located in Miranda, Sydney is a government-based secondary school. This unit of work revolves around Port Hacking High School's Year 11 timber products and furniture class, which includes students from a wide range of learning abilities. This range of abilities has resulted from selected students not completing Industrial Timber in years 9 and 10, which develops students' skills and knowledge of processes and machinery in the workshop. Henceforth, differentiated instruction is integrated throughout each lesson to enhance students' learning despite their starting point. This unit of work is drawn from the Humanism learning theory, in which "the expectation is that when students are allowed to follow their interests and be creative, and when learning takes place within a supportive environment, students will engage in learning for its own sake" (Saunders & Wong, 2020). Thus, encouraging students to complete projects and assignments as they have intrinsic motivation supported by researching the needs of the intended user and designing their own jewellery box. The learning outcome of this unit involves students researching and constructing a portfolio accompanied by a project that reflects the students' abilities in the workshop (NSW Education Standards Authority, 2023). This involves students' researching for an intended user, designing, and reflecting their skills in a practical environment. They maintain that learning should be internally motivated and driven by students' interests and goals, rather than externally motivated and focused on a material end goal such as achievement on tests, or employment (Sharp, 2012, as cited in Saunders & Wong, 2020). This unit of work is scaffolded to encourage students to succeed in completing the unit's summative assignment (both in and out of the classroom) which consists of the portfolio and the project that has been worked on within the unit.

### Rationale and Justification:

Within this preliminary unit of work, teaching, learning, and assessment are evident within the eight-week course. The inclusion of independent and collaborative classroom/workshop as well as the implementation of Bloom's Taxonomy encourage students to maintain focus and complete the task to a high standard. The application of these factors encourages students as they can reflect, adapt, and create their own piece of work that may or may not differ from their peers; by doing so, students are able to be creative and inspire one another within this unit. The first week of the unit has students researching and completing the beginning stages of the design process for their jewellery box. When completing these tasks, students will work both independently and collaboratively. By doing so, students can remember and understand aspects of a portfolio that were covered in years nine and ten. By utilising "Bloom's Taxonomy it is helpful for identifying relevant assignments that reinforce the purposes for learning" (Fisher et al.,

2012) as students are able to apply their previous knowledge to the design process through remembering and understanding the methods to undertake this project. The inclusion of hand drawn and computer aided designs (CAD) in week two encourage students to create and edit a variety of designs that they have created. This work is completed individually, however, input from teacher and peers is encouraged to allow the students to create a variety of suitable designs to create. This task has students applying and analysing a range of designs and drawing inspiration to create and develop their own unique product. The use of demonstrations in week three had students observing processes of various joinery construction methods that they will be utilising in the construction of their jewellery box design. As the students will be observing demonstrations and videos, they are able to analyse and evaluate key information that is being provided to construct the join themselves for their project. Weeks four to eight has students in the workshop beginning their projects. Students will be working individually to complete this task, in which the students will be practically applying and reflecting on the way in which essential questions and understandings of applications are crucial to completing set tasks and projects (Davila et al., 2017). Students are also encouraged to collaboratively work to complete joinery, provide feedback, and assistance in other areas of the workshop (if safe to do so) to further encourage understanding of applications in the workshop. During these four weeks, students will be working at their own pace to complete the remainder of their portfolio (outside the classroom, classroom time can be permitted depending on the progress students are making with their jewellery box).

Throughout the unit outline, teaching strategies such as, literacy, numeracy, and information and communication technology (ICT) have been incorporated throughout to ensure students at a range of levels are supported and understand the content being presented. Literacy is evident throughout the unit, more specifically in the foundational weeks of the unit. This is as students are beginning their portfolio and conducting research. As the students are conducting preliminary research they are evaluating and understanding their findings, they are also practicing cognitive learning as they are developing skills through mental processes. During the research process, students are practicing inquiry-based learning; this is explored though researching the needs of the intended user and how these findings can be applied to the final product. Students are also required to design a range of potential sketches for their final product, these sketches will be annotated by the students. By annotating these designs, students can analyse and describe their ideas and note any changes/alterations that may be applied to the final product. Numeracy is seen throughout the early stages of the unit as students are beginning their portfolio, specifically throughout the design process and preparing to enter the workshop. During the design process, numeracy is implemented through the development of the project through scale, sizes, and dimensions of the intended project in which the students are creating and designing. The inclusion of

numeracy within this unit assists students in identifying the role that numeracy plays in the world around them, and to make judgements and decisions required of members of society (Bennison, 2015). At the mid-point of the unit, students will be entering the workshop, this has students practically apply their numeracy knowledge in relation to the construction of their project. Students will be measuring lengths of timber and calculating specific measurements for processes required for the construction of the project. This practical application of numeracy knowledge enforces a better understanding of these skills and how these factors relate back to real-life scenarios, encouraging student engagement. ICT is prevalent throughout the beginning of the unit students will be applying their current understanding whilst gaining new information on ICT programs, this includes knowledge on drawing (CAD), portfolio layouts and generations, and viewing demonstrations of processes require in the workshop. The incorporation of ICT within the classroom "supports students' creativity and collaborative learning, it improves self-efficacy" (Teidla-Kunitsõn et al., 2023), thus, encouraging students to complete the project and tasks to a high standard. With the use of ICT, students can express their design choices, as they are able to create a wide range of ideas due to the ease of ICT, modifications to these designs are also simple, allowing students to create designs that adhere to the requirements of the intended user. Overall, the inclusion of literacy, numeracy, and ICT is established throughout the unit to ensure students at a range of levels are supported and understand the contend being presented to produce a high-quality product.

Within this unit of work, students are required to design and create a jewellery box for an indented user of their choice, the students will research and design a jewellery box that adheres to these findings. During the research and design processes, students and teacher(s) are required to always be considerate of the learning support and safety requirements in the classroom and workshop. To ensure safety within the workshop when constructing their projects, students are required to complete a range of safety modules online before they can enter the workshop. These modules outline the tools' (hand and machine) safety, risks, management, and how to safely operate the tools that will be in use. The modules also outline personal protective equipment (PPE) requirements, safe zones around the machines, and how to report any faulty tools/machinery within the workshop. During the research phase of the design process, students will be required to use ICT resources. Teacher observation consistently is required to ensure student safety whilst online, and to ensure all students maintain on task to attain relevant information and resources. As students are finalising their portfolios (research h, designs, and processes), the teacher will demonstrate (in the workshop) the process (along with safety, measurements, and standards for the students) whilst the students write notes based off the processes demonstrated. Explicit teaching is "a systematic method of teaching with emphasis on proceeding in small steps, checking for student understanding, and achieving active and successful participation by all students" (Rosenshine, 1987, as

cited in Archer & Hughes, 2011, pp. 1–22). By doing so, students gain a better understanding of the process and the expectations for them whilst in the workshop, it also allows students who are EAL/D to take notes in their preferred language to build their knowledge. Students will also have the option to view video (provided by the teacher) demonstrations of the processes presented by the teacher to reinforce and provide more information to encourage a better understanding. As the classroom will have a diverse range of learning needs, adjustments have been covered for high order, low order and diverse learners. Differentiated learning in the classroom is essential for student motivation, to achieve this, the process of learning must be "inventive, encouraging, interesting, beneficial, and provide tools that can be applied to the student's real life" (Williams & Williams, 2011). High order students will be encouraged to work individually (with minimal teacher aid) to complete research, idea generation, and proposed designs, and when required, work in small collaborative groups. Whereas low order students will work individually, with teacher aid if required to conduct research for their portfolio, however, they will be working in small collaborative groups to generate a range of designs. Similarly, diverse learners will be working in small groups with aid from examples and teacher assistance to conduct and layout research, this will also be done to produce a range of design ideas.

### Focus Area: Timber Products and Furniture Technologies (Preliminary)

Title: Jewellery box and portfolio project	Duration: Term 1, weeks 1-8
Year Level: 11	Teaching area: Timber Products and Furniture Technologies (Preliminary)

### Overview

## Unit length: 8 weeks

This unit has students designing and constructing a jewellery box that will be used to store everyday/occasional pieces of jewellery. Students will be required to conduct individual research and design different sizes, styles, and construction methods, allowing for different materials/concepts to be integrated into the design that the student/s ideate. Students will incorporate their research from the development stages and apply this knowledge towards the construction of their final project. Students will become knowledgeable in a variety of design, materials, hardware, and construction techniques to construct their personalised jewellery box. They will engage in literacy activities that will build their understanding and use of the course concepts within the construction of the portfolio.

## Syllabus topics covered

- development of several practical projects
- development of management folios
- development of skills related to research, analysis and evaluation
- skills in managing projects
- documentation skills in the preparation, planning and presentation of a management folio
- skills in literacy through written reports, folio work
- skills in computer-based technologies
- numeracy skills related to sizing, costing, estimating, ordering and efficient resource usage
- graphical skills related to the project work

## **Preliminary course outcomes**

- P1.2 identifies appropriate equipment, production and manufacturing techniques, including new and developing technologies
- P2.1 describes and uses safe working practices and correct workshop equipment maintenance techniques
- P2.2 works effectively in team situations
- P3.1 sketches, produces and interprets drawings in the production of projects
- P3.3 demonstrates appropriate design principles in the production of projects
- P4.1 demonstrates a range of practical skills in the production of projects
- P4.2 demonstrates competency in using relevant equipment, machinery and processes
- P4.3 identifies and explains the properties and characteristics of materials/components through the production of projects
- P5.2 uses appropriate documentation techniques related to the management of projects

- knowledge and understanding of workplace safety and communication:
- signage
- WHS principles and requirements
- personal protective equipment (PPE)
- safe working practices
- risk assessment

#### Assessment tasks

At the end of each week, students will be required to submit a small task that ensures they are working towards the end goal (completing the project) and demonstrating an understanding of what is being asked of them. These tasks accumulate to the assignment due at the end of the unit (week 8); a portfolio and the completed project (jewellery box).

The portfolio will include introduction (statement of intent), research (timber, joinery, processes/machinery, glues, finishes), drawings (annotated), proposed and actual timeline, finance plan (materials, cutting list, calculations and cost), work, health, and safety (WHS), evaluation. The portfolio will be marked alongside the completed jewellery box.

### **Quality teaching focus**

The focus of this unit of work is to teach students how to conduct research and gain the necessary skills and knowledge to create and format a portfolio and construct a practical project. Students will engage in activities that encourage understanding of the requirements for the research and construction of the major project. This unit allows students to prepare and note the requirements for the construction of their major project; by completing a preliminary project with guidelines, it allows students to succeed in their studies. By practically applying this research and knowledge these concepts are reinforced for the students.

#### WHS considerations

In junior years, students will have completed units/tasks on safe workshop practices. Students are to complete OnGuard modules before entering the workshop as new tools/machinery are to be used. Correct PPE must always be worn by students. Observation of student workshop practices by a teacher informs level of skill in following safety protocols.

Wee k	Project activities/integrated learning experiences	Students learn about	Students learn to	Teaching, learning, and assessment
1	Teacher:  Provides students with brief for assessment task and the expectations of the submitted project, students will have access to examples for the assignment and how to achieve a high result.  Provides actives on how to conduct adequate research for a need and how to adapt needs for specific users.  Demonstrates how to hand draw and use CAD applications to construct project.  Students:  Students:  Students to begin the research phase of the portfolio.  Students to adapt the jewellery box size, aesthetics, and function to meet the needs of the indented user.  Design/changes will be expressed using CAD and hand drawing (minimum of five/three designs), these designs will be annotated and drawn in accordance with AS1100 drawing standards.	Knowledge and understanding of project management • skills in managing projects • development of management folios • development of skills related to research, analysis and evaluation Project management • planning • documentation Literacy • industry terminology • written reports using appropriate text types • material/component list • management folio • ICT	Apply research, analysis and evaluation skills in planning a range of practical projects interpret and understand drawings. Use project development techniques to complete practical projects within a given time frame.  Compile reports using appropriate text types using information gathered.  Document relevant information into related folios.  Develop ICT skills in the preparation of related folios.  Interpret and understand drawings.  Use sketches and freehand drawings to interpret ideas.	High order: Students to work individually and conduct research on information they believe is required for the project. Teacher assistance will be provided if required. Students are to produce a minimum of 5 annotated designs for the jewellery box they intend to produce.  Low order: Students to use range of examples on portfolio layouts and required research information. Students are to produce a minimum of 3 annotated designs for the jewellery box they intend to produce.  Diverse learners: Content and portfolios will be modified to accommodate different learning styles and abilities (visual aids and various examples). Students are to produce a minimum of 3 annotated designs for the jewellery box they intend to produce.  Assessment: Students to submit portfolio progress at the end of each week for teacher to observe progress and provide minimal feedback.

Wee k	Project activities/integrated learning experiences	Students learn about	Students learn to	Teaching, learning, and assessment
2	Teacher:  Provide students with required WHS documents to be completed before entering the workshop (must be completed before week 3).  - Signage - WHS principles and requirements - Personal protective equipment (PPE) - Safe working practices - Risk assessment  Demonstrates how to create and the impact proposed timelines has on the construction of the project.  Students:  Students:  Students are to have a minimum of three annotated designs that have been approved by teacher (annotations to include, dimensions, joinery methods, timber species, and any other relevant information).  Materials, cutting list, calculations and cost to be researched and included into portfolio.	Project management  • planning  • documentation  Numeracy  • related calculation skills:  - ordering  - sizing  - quantities  - costing  - estimates  Communication  • reading and interpretation of technical drawings  • industry standards  • freehand drawing  • sketching and annotations  • production and working drawings  • ICT  • WHS signage	Use project development techniques to complete practical projects within a given time frame. Use the appropriate numeracy skills relevant to a business, including calculating the need for and costs of materials/components interpret and understand drawings. Interpret and understand drawings. Use sketches and freehand drawings to interpret ideas. Prepare working drawings for the production of projects through both manual and ICT techniques. Identify and apply signage.	High order: Students to work individually and complete all WHS documents. Students are to complete a proposed timeline, to be looked over by a peer to ensure all process are covered. Materials, cutting list and costings to be researched in small groups with minimal aid from the teacher.  Low order: Students to work individually and complete all WHS documents. Students are to complete a proposed timeline in small groups, to ensure all process are covered. Materials, cutting list and costings to be researched in small groups with aid from the teacher and past portfolios (examples).  Diverse learners: Students to work individually and complete all WHS documents. Students are to complete a proposed timeline in small groups, to ensure all process are covered. Materials, cutting list and costings to be researched in small groups with aid from the teacher and past portfolios (examples).  Assessment: Students to submit their WHS documents to teacher and past portfolios (examples).  Assessment: Students to submit their WHS documents to teacher by the end of the week. Students to have their proposed timeline completed for week 4 (printed and checked by teacher).  Materials and cutting list to be sent to teacher before end of week 3 for materials to be supplied (entry ticket for workshop).

Wee k	Project activities/integrated learning experiences	Students learn about	Students learn to	Teaching, learning, and assessment
3	Teacher:  Demonstrate how to construct various joinery and construction methods (including ones that will have been done in junior years). This will be completed through video demonstrations and classroom demonstrations.  Joinery methods include:  - Biscuit and domino - Dovetail - Rebate/Housing - Finger  Students:  Students will demonstrate safe use of joinery methods (using scrap timber) in the workshop based off their observations and note taking during the teacher/video demonstrations.  Various joinery methods will be assessed, peer and teacher feedback will be provided.	Knowledge and understanding of project management • skills in managing projects • development of management folios • development of skills related to research, analysis and evaluation  Literacy • industry terminology • written reports using appropriate text types • material/component list • management folio • ICT	Apply research, analysis and evaluation skills in planning a range of practical projects interpret and understand drawings.  Compile reports using appropriate text types using information gathered.  Document relevant information into related folios.  Develop ICT skills in the preparation of related folios.	High order: Students to individually take notes of the steps, measurements, and tools required for the construction of the joinery method, as well as safety for new machines to be used.  Low order: Students to individually take notes of the steps, measurements, and tools required for the construction of the joinery method, as well as safety for new machines to be used. Video tutorials of the joinery construction and machine use will be uploaded for the students to watch.  Diverse learners: Students to individually take notes of the steps, measurements, and tools required for the construction of the joinery method, as well as safety for new machines to be used. When note taking, EAL/D students to write in their preferred language to better understand content. Video tutorials of the joinery construction and machine use will be uploaded for the students to watch.  Assessment: Students will be assessed through a quiz at the start of the week for teacher to gain understanding of the student's knowledge. During the demonstrations questions will be asked to gauge students' comprehension of the content being provided. Quiz at the end of the week will be conducted to ensure all students understand how to construct required joinery for their projects.

Wee k	Project activities/integrated learning experiences	Students learn about	Students learn to	Teaching, learning, and assessment
4	Teacher is to observe the progress being made by each student and to provide constructive feedback for the students to be on track with their intended timeline.  Students:  Students:  Students to begin the construction of their projects. By the end of the week students should be up to date or ahead of their intended timeline.  Students are encouraged to have a printout of their timeline to keep track and make any notes for their actual timeline.	Knowledge and understanding of project management • skills in managing projects • development of management folios • development of skills related to research, analysis and evaluation Project management • planning • documentation	Apply research, analysis and evaluation skills in planning a range of practical projects interpret and understand drawings.  Use project development techniques to complete practical projects within a given time frame.	High order: Students are to work individually to begin their project. Minimal aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required.  Low order: Students are to work individually and collaboratively to begin their project. Aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required.  Diverse learners: Students are to work individually and collaboratively to begin their project. Aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required. Examples and previous timelines will be provided to assist students gauge what is expected.  Assessment: Students will be required to hand in annotated print outs of their proposed timeline in accordance with what they are up to. If students are behind, they will need to communicate how they will catch up/adapt their design. Actual timeline will also be updated in their portfolio.

Wee k	Project activities/integrated learning experiences	Students learn about	Students learn to	Teaching, learning, and assessment
5	Teacher to observe the progress students are making and to ensure they are on track/ahead of their proposed timeline.  Teacher to conduct mini demonstrations for students who are behind/need extra assistance.  Teacher to provide feedback and slight alterations to projects to ensure completed on time.  Students:  Students are to continue working on their jewellery box. Students are to annotate their proposed timeline in accordance with the progress they are making each lesson.	Knowledge and understanding of project management • skills in managing projects • development of management folios • development of skills related to research, analysis and evaluation Project management • planning • documentation	Apply research, analysis and evaluation skills in planning a range of practical projects interpret and understand drawings.  Use project development techniques to complete practical projects within a given time frame.	High order: Students are to work individually to begin their project. Minimal aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required.  Low order: Students are to work individually and collaboratively to begin their project. Aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required.  Diverse learners: Students are to work individually and collaboratively to begin their project. Aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required.  Assessment: Students will be required to hand in annotated print outs of their proposed timeline in accordance with what they are up to. If students are behind, they will need to communicate how they will catch up/adapt their design. Actual timeline will also be updated in their portfolio. Teacher feedback will be provided to ensure completed within the timeframe.

Wee k	Project activities/integrated learning experiences	Students learn about	Students learn to	Teaching, learning, and assessment
6	Teacher:  Teacher to observe the progress students are making and to ensure they are on track/ahead of their proposed timeline.  Teacher to conduct mini demonstrations for students who are behind/need extra assistance.  Teacher to provide feedback and slight alterations to projects to ensure completed on time.  Students:  Students are to continue working on their jewellery box. Students are to annotate their proposed timeline in accordance with the progress they are making each lesson.	Knowledge and understanding of project management • skills in managing projects • development of management folios • development of skills related to research, analysis and evaluation Project management • planning • documentation	Apply research, analysis and evaluation skills in planning a range of practical projects interpret and understand drawings.  Use project development techniques to complete practical projects within a given time frame.	High order: Students are to work individually to begin their project. Minimal aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required.  Low order: Students are to work individually and collaboratively to begin their project. Aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required.  Diverse learners: Students are to work individually and collaboratively to begin their project. Aid will be provided by the teacher. Students are encouraged to use their notes for the construction of joinery and to ask peers for aid if required.  Assessment: Students will be required to hand in annotated print outs of their proposed timeline in accordance with what they are up to. If students are behind, they will need to communicate how they will catch up/adapt their design in order to complete the project by the due date. Actual timeline will also be updated in their portfolio. Teacher feedback will be provided to ensure completed within the timeframe.

Wee k	Project activities/integrated learning experiences	Students learn about	Students learn to	Teaching, learning, and assessment
7	Teacher:  Teacher to observe the progress students are making and to ensure they are on track/ahead of their proposed timeline.  Teacher to conduct mini demonstrations for students who are behind/need extra assistance.  Teacher to provide feedback and slight alterations to projects to ensure completed on time.  Students:  Students are to continue working on their jewellery box. Students are to annotate their proposed timeline in accordance with the progress they are making each lesson.	Knowledge and understanding of project management • skills in managing projects • development of management folios • development of skills related to research, analysis and evaluation Project management • planning • documentation	Apply research, analysis and evaluation skills in planning a range of practical projects interpret and understand drawings.  Use project development techniques to complete practical projects within a given time frame.	High order: If students have completed their project before the due date, they are able to continue working on their portfolio and ensure all required information is included and formatted correctly.  Low order: If students are behind, they can come in during recess and/or lunch to continue working on their project (with teacher supervision).  Diverse learners: If students are behind, they can come in during recess and/or lunch to continue working on their project (with teacher supervision).  Assessment: Students will be required to hand in annotated print outs of their proposed timeline in accordance with what they are up to. If students are behind, they will need to communicate how they will catch up/adapt their design. Actual timeline will also be updated in their portfolio. Teacher feedback will be provided to ensure completed within the timeframe.

Wee k	Project activities/integrated learning experiences	Students learn about	Students learn to	Teaching, learning, and assessment
8	Teacher: Teacher is to ensure all projects are completed at the end of the week along with students' portfolios. Students: Students are to finalise their portfolio and write an evaluation regarding the construction of their jewellery box and reflect on how, during the construction of their major work, they will approach aspects of a project differently.	Knowledge and understanding of project management • skills in managing projects • development of management folios • development of skills related to research, analysis and evaluation Project management • planning • documentation	Apply research, analysis and evaluation skills in planning a range of practical projects interpret and understand drawings.  Use project development techniques to complete practical projects within a given time frame.	High order: If students have completed the project before the due date, use remaining time to adapt/alter the chosen design to better suit the needs of the intended user.  Low order: If students are behind, they can come in during recess and/or lunch to continue working on their project (with teacher supervision).  Diverse learners: If students are behind, they can come in during recess and/or lunch to continue working on their project (with teacher supervision).  Assessment: Students to submit finished projects (jewellery box and accompanying portfolio).

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