

Bachelor of Education (Secondary) – Industry Entry
Technology and Applied Studies applications
Additional Selection Criteria- Questionnaire

The material from this point forward is to be used as a guide only. It does NOT need to be submitted as part of your application

Examples of possible responses to questions

Some of these examples are based on previous applications and constitute only selected sections of the applicants' full response – they are offered as suggestions only, they are models not rules.

For each section your response should be guided by the minimum word count. (Word count on the examples is indicated *in italics* at the end of the response.)

5. State briefly any other information you think relevant to this application, this may include experience you have had in areas relevant to your teaching area and/or technology specialisation/s, working with adolescents, training/teaching, additional skills and experience related to TAS teaching.

- i. I have extensive experience working as part of a team, both as a leader and contributing member and believe these experience and skills will be valuable in the classroom environment as well as in my interaction with teaching colleagues and other school staff. In my position as a Site Manager I have been responsible for supervision and coordination of sub-contractors. On some sites this would involve up to 30 contractors. This required being able to give clear directions, instructions and coordinating the separate trades to ensure maximum efficiency. As part of my management role I liaised with project managers, consultants and clients, working with programs and adhering to OH&S requirements.
(110 words)
- ii. I have supervised and trained several apprentices, most of whom were in the 17 – 25 age group, for the period of their apprenticeship training. I have also supervised and worked with a number of high school and TAFE students participating in work placements as part of their study. The onsite training of apprentices and students is fundamental to their development in the building industry and I believe I have been able to provide valuable, enjoyable and rewarding learning experiences in a positive learning environment.
Away from the work environment I have coached a junior soccer team for four years, working with the children and their parents to building team cohesiveness and performance within the club policies and regulations. *(120 words)*
- iii. I have been teaching extra-curricular woodwork classes at a local Primary school for groups of 8-10 children aged 9-12 years of age for the past 18 months. I have developed a sequence of 90 minute lessons including theory and workshop activities incorporating basic skills and techniques. The workshop is organised with consideration of OH&S guidelines while providing a stimulating learning environment.
I have developed a range of design projects that build a progressive level of skills and confidence for the class. I am responsible for the costing, purchase and initial preparation of materials and am able to adjust the projects to suit the individual abilities of students. *(110 words)*
- iv. With 25 years experience working and training in the Hospitality industry I believe I can share these skills with high school students by becoming a teacher. As a chef, it is crucial to be able to instruct staff in response to changing menus and daily specials to maintain consistency and quality of service.
I have a passion for food and the hospitality industry and consider this as an opportunity to share this by teaching and developing students' knowledge of nutritious and flavourful food as well as their skills in production of this food. This is a continuation of what has been a major part of my career in training apprentices and new staff in a restaurant as well as passing on new techniques and skills. *(130 words)*

Bachelor of Education (Secondary) – Industry Entry*Technology and Applied Studies applications***Additional Selection Criteria- Questionnaire****Examples of possible responses to questions**

6. In context of your area of industry experience and expertise please give specific examples to indicate how you have implemented and maintained your knowledge of the past, present and emerging technologies in your industry area.

- i. The construction industry is constantly evolving with the introduction of new products, techniques and rules and regulations to be considered. I maintain my currency of knowledge of emerging technologies through attending trade shows, internet research and subscription to print and internet-based trade magazines, membership of professional associations and introduction of new technologies and techniques as appropriate. Working closely with specialised contractors and consultants is another major source of information about new and emerging technologies.
- Cabinetry and joinery trades hold aesthetics and practicality in equal importance. New hardware, machinery and construction methods evolve to respond to changes in style and design. In the workplace trades people are constantly updated by both the suppliers' sales staff as well as customer demand. In addition it is inherent in a business to be abreast of the current styles and fashion to allow them to have the capacity to respond to demand. This means that as well as receiving catalogues and demonstrations by company representatives, we also subscribe to trade magazines as well as domestic 'interior design' publications.
- In regard to past practices of the cabinetry industry, this begins with the compulsory components of apprenticeship training which encompasses the traditional skills of solid timber construction techniques. This may continue into the ongoing trade skills depending on the course of the individual's career path however it remains the basis of all initial training. (230 words)
- ii. The proliferation of books, television and print magazines devoted to trends and developments in the food and hospitality industry makes it relatively easy to maintain currency of knowledge of past, present and emerging trends and techniques. In addition I have taken the opportunity to attend master classes run by industry leaders as well as trade shows, food festivals and, of course, eating in restaurants to experience first-hand the innovations and products. This has allowed me to research and learn about traditional ingredients and techniques from numerous regional cuisines from around the world. I have also been able to become aware of current and emerging trends to incorporate seasonal and organic produce while being mindful of issues of sustainability, food miles and animal welfare issues related to customer expectations of products coming from a healthy and ethical producer. (140 words)

Bachelor of Education (Secondary) – Industry EntryTechnology and Applied Studies applications**Additional Selection Criteria- Questionnaire****Examples of possible responses to questions**

7. In context of your area of industry experience and expertise please give specific examples to indicate how you have developed design ideas and design solutions/problem-solving in your technology area and how you have documented, communicated and presented these ideas to the client.

- i. Designing and making furniture frequently demands development of design solutions to meet the client's brief as well as consideration of constraints that may be imposed by cost, available materials, location, use and purpose of an item. For example, a client required a piece of furniture based on a specific antique French style to be used to house modern technology such a television and other electronic equipment. The design must be in the style of choice but obviously the purpose of the piece is not something that is an exact copy of an original piece. I researched the traditional dimensions and style of a suitable cupboard and adapted it to suit its purpose. I then developed sketches and workshop drawings which were scanned and emailed to the client for approval. The proposal included options for various internal and external points of access for wiring as well as a range of finishes using traditional and modern techniques.
- This required clear written and visual representation of the look of the piece as well as explanation of the variation in durability of the different finishing options. I developed a retractable door system which allowed a traditional piece of furniture to function as a modern entertainment unit. To maintain the visual style the modern retractable hinges could not be seen when the cupboard was shut and traditional hinges were added to the outside of the piece for decorative purposes.
- This also allowed the client to decide in advance if they wanted to have a single entry-point for electrical cords to access the television etc and to use wireless technology for all other connections to minimise the cords and the access points to preserve the overall look and integrity of the piece of furniture. The client could investigate the cost of converting to wireless technology and make sure the cupboard would fulfil the range of functional requirements.
- This is an example of how to interpret styles and techniques as well as adapting design to incorporate technological changes not directly impacting the production of the item. (340 words)
- ii. I have designed, developed prototypes and manufactured specialised harvesting machines for a range of specific crop types. This has involved research and investigation of available commercial equipment for similar types of crops. Based on this research I made engineering drawings which were then presented to the client for their feedback, the prototype was manufactured and tested, again with involvement of the client and after some minor refinements of the design the drawings, development and testing of the harvester was undertaken. The evaluation of the machines performance indicated the potential for sales to a wider range of consumers and I designed and developed a variety of jigs to efficiently manufacture the machine parts in volume.
- The presentation of the project as it developed constituted a range of technical drawings and reports to the client giving a description of the changes and progress of the project. In addition on-site demonstration and trials of the machine followed by technical reports of performance based on data collected based on these trials were also given to the client.
- The final version then went through the company's quality assurance procedures and was fully documented and assessed by all of the various engineering production sections of the company as well as the costing of the project by the accounts section. I presented the final results to the company board of directors using a PowerPoint presentation as well as the full range of technical and costing documents. (240 words)

Bachelor of Education (Secondary) – Industry EntryTechnology and Applied Studies applications**Additional Selection Criteria- Questionnaire****Examples of possible responses to questions**

8. In context of your area of industry experience and expertise please give examples of how you have developed and implemented innovative, creative and enterprising solutions to design issues/problems in your industry/technology area.

- i. Recently, I redesigned the workshop space to incorporate an area that allows for dust extraction to minimise the impact on the health of staff using routers on projects. This allowed us to not only respond to OH&S issues and legislation but was also an opportunity to reconfigure the work flows to streamline production and increase productivity as well as increasing worker comfort.
I have designed and built boardroom tables with integrated power, lighting and data connections in concealed units with hydraulic power to expose them when required for use. This has required the integration of new technology as well as design solutions that allow for upgrades of systems to incorporate advancements in technology components as they are developed. This requires knowledge of potential directions of innovation beyond my direct skill areas but that have an impact on our products as well as the use of innovative technology from within our industry. These and other products are designed with a wide range of materials to suit the style requested and may include products such as granite, vinyl, glass, various woods and metals which are combined to produce a unique artistic creations that meets the clients brief.(200 words)
- ii. **Innovative:** I have designed and built a moveable stand to tilt and empty large drums of liquid. This allowed safe single person handling and reduces the risks involved in moving and decanting large drums of potentially hazardous materials **Creative/Enterprising:** Implemented a safer process for installation of roller bearings in motors. This involved the selection and installation of a suitable hydraulic press that replaced the need for staff to hit these bearings into place with soft hammers. This has resulted in a decrease in repetitive strain injuries for the workforce. **Design Issues/Problems:** Developed and designed a procedure to lift 30kg roller bearings out of containers using an overhead crane. This alleviated the need for staff to perform this task manually and will lower the risk of related injuries. This process has also increased productivity as the process is now completed in less time. (145 words)
- iii. An example of using innovative solutions to overcome design issues can be illustrated by the individual modification of standard hardware used in windows bought from a supplier. If a swivelling lock is binding on an opposing sash window due to insufficient thickness of the meeting rail, grinding or sanding the hardware to allow the lock to move closer to the glass and to give more clearance from the opposing rail.
The legs and rails of tables are a good example of using creativity in design. Problems may be encountered by the floor to rail height and require the design of an original shape or modification to an existing design to the proportion of the overall table size with consideration of the purpose and function of the table and the desired aesthetic impact. Sketches and full size set outs can be drawn in early stages. Templates or 'samples' assist the development and implementation of the design with more certainty. (160 words)

Bachelor of Education (Secondary) – Industry EntryTechnology and Applied Studies applications**Additional Selection Criteria- Questionnaire****Examples of possible responses to questions**

9. In context of your area of industry experience and expertise give examples of how you can ensure design decisions and choices of technology options can be appropriate, ethical, responsible and sustainable within your industry area?

- i. Every new project presents a range of design decisions and technology options. The response needs to take into consideration the client's needs and desires as well as the practical and cost implications of the available options. I believe that for every project the client's requirements are of paramount importance and providing the information for the client to make an informed decision includes awareness of ethical and sustainability standards in regard to materials and technologies to be utilised. As a business we make sure we identify and source as much 'green' materials and technology as possible, however the final choice is made by the client who is able to select any commercially available material suitable for the project.
- By developing a breadth of knowledge about ethical and sustainable options we are able to give the client the information to consider potential cost savings of such things as sustainable design for passive heating and cooling options that while initially not necessarily the cheapest option, over the medium to long term offer substantial savings in energy consumption costs. We also stay informed about various government rebates and subsidies for solar heating, insulation, etc. We make sure we can advise on the manufacture and source of raw materials for a product as well as the comparative efficiency of a material or technology.
- ii. There is an increasing awareness of 'eco-friendly' building options and increasingly clients expect to be able to be advised about these as options on a construction project. Customer demand as well as supplier marketing allow us to stay in touch with advancements in sustainable technology and new eco-friendly products. It is also important to check manufacturers' claims against the various testing and user groups who publish their product testing and experience. Recently we built a set of 100 entrance doorways using a series of wall-mounted, veneered boxes around the doorways. A newly developed man-made veneer was chosen. The product was laid onto plywood and pre-lacquered. The hardwearing finish was well suited to the job requirements, saved labour in the installation and finishing costs and is available in a various designs and sizes. The products are produced from recycled wood fibres and are produced using low levels of chemicals and energy to maximise its sustainability credentials. In other projects we utilise "Forest Stewardship Council" endorsed timber which ensures the material have been sustainably harvested. There is a wide range of FSC timbers and this allows clients to select a timber suitable for their project while acknowledging their projects impact and their responsibility for the future of the forests. As builders we also need to promote this aspect as it is essential to the ongoing sustainability of the construction industry itself.
- iii. Ethical, responsible and sustainable choices with in industry can be related to production organisation and techniques as well as the materials used. Efficiency in production can lead to a reduction of staff injuries as well as ensure materials are used with minimum wastage. I have introduced computer operated saws, drum sanders and dust extractor systems which have increased efficiency and reduced waste as well as improve workplace conditions.
- Analysis of product movement and manufacturing systems resulted in improved product management systems to rearrange storage systems to be more appropriately located, use of trolleys, pallets and forklifts to maximise efficiency and improve worker safety. These improvements also resulted in lowering of materials wastage and power consumption. In addition waste products are now sorted and recycled wherever possible and also provided to local community groups and individuals which has developed a positive community involvement for the company as well as a sustainable use of 'waste' products and lower waste removal costs. (160 words)