

PRODUCT DESIGN



Fullbrook6

This evening we
are going to
tell you about:

- Course structure
- Assessment
- Extra resources
- Potential degree and apprenticeship routes from this A-Level
- Subjects that work well with this subject
- Potential career opportunities



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Big enough to challenge, small enough to care

What our students say:

“I love having the freedom to choose the theme of my project. It means I can select topics I am passionate about”

“Support is available from my teachers or the technician whenever I need it, which has been really valuable”

“The relationship we have with staff is totally different from GCSE, we are treated like young adults and have mutual respect”

“Having an area like the studio is great, we are always welcome to work in the department outside lesson times”



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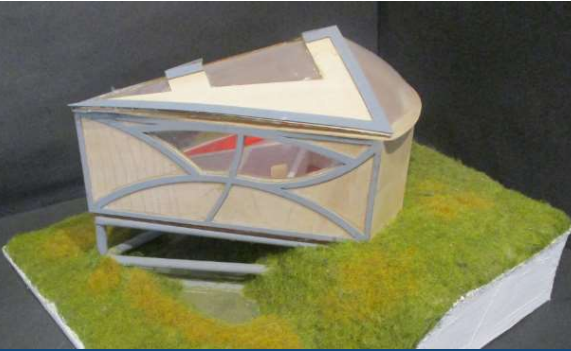
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What does an A level Product design lesson look like?

Students each produce a portfolio project (NEA) on a context of their choice. Common contexts include architecture, space saving furniture and sustainability.

Alongside this student learn a range of theory topics from material properties and manufacturing processes to enterprise and socio economic influences.

100 mins: More time in lessons means we can blend the theory and NEA/practical lessons so theory content can be applied. Time to do, particularly when it comes to practical



Developed Design C

The Design
The origin of this design came from tables and stools that fit together and store away as one unit, initial ideas 1D. The improvements and changes I've made are mostly aesthetic and but still keep the foundation idea of store away and storage seats. However this table would be shared out, but I just compact with multiple features. For example, the response in the chair is perfectly facing forwards creating more of a casual seat and it also allows easy access to the storage inside the bottom of the seat.

The table of this design comes from the art deco movement that some of the target market like, the idea was to keep it modern, so it fits into new flats and homes.

Materials and Manufacture
The materials I am planning on using are scrap metal round and flat bar, this will either be welded or bolted to create the frame design. Then the wood will be either recycled hardwood slab or ideally recycled pallet wood as this would fit my brief better this can then be attached to the metal frame using T nut inserts in the wood that allow a bolt to pass through the metal and thread into the wood on the underside. To make the chairs it will be a similar process with a metal welded frame and wood panels bolted onto the metal from the inside.

Testing research
For this I wanted to see what different ways I could attach metal to wood and make it removable, not only for this design as talked about above but for other designs think it could be useful. I decided to test the strength of a toe nut insert. Since I will be using the toe nut the wrong way round, i.e. the face on the side will be pulling it out the wood not through the wood grain.

Conclusion
That's why I found the nut to pull out with not much force at all in comparison, however I don't think the force will be that high anyway as long as the bolt isn't over-tightened then it's there to hold the table to the base and stop it moving and sliding over I could use furniture toe nuts which take screws if you inserts that screw into the wood and allows a bolt to be used, just like the toe nut but won't pull out as easily. The thread on the bolt you screw in tightens to the nut. The thread to wood thread down screws these can be screws into metal tube and take a nut on the end to secure it together. These and won't allow the table to be placed flat bottom down

Threaded insert
Machine thread to wood thread down screw
Furniture toe nut

D Drawings

Conclusion
These are the CAD models I have made on Google SketchUp to allow me to see how the design will look in colour and expose the design into its component parts. This model is to scale to what I have researched previously. I have added dimensions to the assembly diagram to allow me to get the sizes of all the pieces I need to make the cutting list.

It being to scale means the creation of the physical model will be easier as it was scaled down to required size.

The use of curves and straight lines works well, and the two curved elements look as if they translate which is aesthetically pleasing.



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Why study Product design?

Transferable skills:

- Presentation skills
- Communication skills
- The ability to work to deadlines
- Commercial and entrepreneurial skills
- Problem-solving skills
- The ability to use your initiative
- The ability to work independently
- Visual and spatial awareness
- General and specialist IT skills, such as computer-aided design (CAD).



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Course structure & Assessment

Sections		% of grade
Paper 1	Technical Principles 2.5hrs	30%
Paper 2	Designing and making principles 1.5 hrs	20%
NEA	Personal project	50%

Year 12

- Prep for year 13
- Experimenting with materials
 - Properties
 - Characteristics
 - Methods of forming
- Mini practical projects
- Find area of personal expertise

Year 13

- Theory focus time
- Exam practise
- Personal NEA



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Resources

- Access to computer suite with sketch-up and 2D design on PC's
- Expert staff and technicians available to support students
- The Design Studio (exclusive use for F6)
- Laser cutter and vinyl cutter
- 3 fully kitted workshops
- Continual access to creative media/materials



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Your Future...

- **University degree courses (BA/Bsc):** Architecture, Product design, Engineering, Aeronautical Engineering, Mechanical Engineering (to name a few)
- **Apprenticeship opportunities:** junior designer, carpentry, engineering
- **Career possibilities:**

Directly linked:

- CAD technician
- Architect
- Exhibition designer
- Furniture designer
- Interior and spatial designer
- Product designer

Subject is very useful:

- Advertising director
- Automotive engineer
- Furniture conservator/restorer
- Graphic designer
- Materials engineer
- Product manager
- Production designer, theatre/television/film



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F6



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