

Self-directed Project

Pursue a self-directed project based on your own interests and passions within the realm of D&T. This could be anything from designing a piece of furniture to creating a wearable tech device – the key is to show creativity and independent thinking. This could be linked to D of E skills section.

Advanced Presentation Skills

This extension task is to help you refine your D&T presentation skills, and focus on clear communication, visual storytelling, and persuasive argumentation through your annotation.

Present a design for a futuristic house which solves a specific need (i.e. affordable homes, sustainable housing, rising sea levels, smaller homes, multi-generation housing etc). You should present your ideas using CAD, cardboard modelling and sketching and formal drawing skills. Your work should be submitted with a written presentation communicates how your product solves your chosen brief.

Designing a Futuristic House

Objective

This extension task aims to refine your Design and Technology presentation skills, emphasising clear communication, visual storytelling, and persuasive argumentation. You will design a futuristic house that addresses a specific need, such as affordable housing, sustainability, adapting to rising sea levels, compact living, or multi-generational housing. Your presentation will incorporate CAD and cardboard modelling, sketching and formal drawing skills, accompanied by a written explanation of how your design meets the chosen brief.

Instructions:

1. Identify the Need

Choose a specific need or challenge that your futuristic house will address. Consider factors such as social, economic, environmental, or technological trends shaping the future of housing.

2. Design Concept

Develop a conceptual design for your futuristic house. Consider innovative architectural features, materials, technologies, and spatial arrangements that respond to the identified need. Use CAD software to create detailed 3D models of your design, highlighting key features and functionalities.

3. Cardboard Modelling

Create a physical model of your futuristic house using cardboard or other prototyping materials. This model will provide a physical representation of your design concept, allowing you to assess its form, scale, and 3-D layout. Pay attention to details such as structural integrity, interior layout, and external aesthetics.

4. Sketching and Formal Drawing

Enhance your presentation with hand-drawn sketches and formal drawings. Include floor plans, elevations, sections, and perspectives to illustrate different aspects of your design. Use shading, annotations, and labels to convey important design elements and spatial relationships.

5. Written Presentation

Prepare a written presentation that communicates how your futuristic house addresses the chosen brief. Describe the key features, functionalities, and benefits of your design, emphasising its innovative solutions and practical advantages. Use persuasive language to convince your audience of the effectiveness and feasibility of your design concept.

Submission Requirements:

CAD Models: Include digital files of your CAD models, rendered images, and animations showcasing your design from different angles.

Cardboard Model: Submit photographs or videos of your cardboard model, highlighting its construction and key features.

Sketches and Drawings: Provide scanned or photographed copies of your hand-drawn sketches and formal drawings, organized into a cohesive presentation format.

Written Presentation: Submit a written document (e.g., essay, report, or presentation slides) outlining your design concept, accompanied by supporting visuals and annotations.

Evaluation Criteria:

How original and inventive is your design concept in addressing the chosen need?

How well-developed and refined are your CAD models, cardboard model, and formal drawings?

How effectively do you communicate your design ideas through clear visuals, annotations, and persuasive arguments?

How feasible and practical is your design solution in real-world applications?

How well do you analyse and justify the design decisions made in response to the identified need?

Introduction to Design History and Theory:

This project enables you to carry out some wider research and gain a deeper understanding of the concept of design history and theory. Design is not just about creating something visually appealing, but it is also deeply influenced by historical events, cultural movements, and the work of influential designers.

1. **Researching Influential Designers:** Produce a list of influential designers from various time periods and design disciplines. You should choose one or more designers to research in depth. These designers could include pioneers such as Dieter Rams, Charles and Ray Eames, Raymond Lowey, or contemporary figures like Philippe Starck, Jonathan Ive or Zaha Hadid.
2. **Exploring Design Movements:** Carry out research on different design movements, such as Art Nouveau, Bauhaus, Modernism, Postmodernism, and Contemporary Design. Use the

resources available in the LRC (or via *Access It* on RM Unify), such as books, articles, and online videos to help you understand the key principles and characteristics of each movement.

3. **Analysing Design Artifacts:** Analyse design artifacts from different historical periods and design movements. These artifacts could include furniture, architecture, graphic design, fashion, and industrial products. Try to identify common themes, techniques, and innovations across different designs.
4. **Critical Thinking and Analysis:** This is your opportunity to critically analyse how historical designers and design movements have influenced contemporary design practices. Consider questions such as:
 - a. How have the design principles of past movements been adapted or challenged in contemporary design?
 - b. What role does technology play in shaping contemporary design trends?
 - c. How do cultural, social, and environmental factors influence design choices today?
5. **Creating Presentations or Projects:** You should present your research findings and analysis to your class or create a visual presentation documenting your discoveries. Alternatively, you could create a design project inspired by the work of a historical designer or design movement, putting your understanding into practice.
6. **Encouraging Reflection:** Finally, You should reflect on your own design practices and how design history and theory informs your approach to design projects. Consider how you can incorporate elements of historical design movements into your own work while also pushing the boundaries of innovation.

Materials Exploration in Design and Technology

For this project, you'll delve into the world of materials used in Design and Technology, focusing on either timber or paper. Use resources in the LRC, such as books, articles, and online videos to research the properties, manufacturing processes, applications, and sustainability considerations of your chosen material. Investigate its versatility in design and construction, paying special attention to innovative uses and environmental impacts. Prepare a visual presentation summarising your findings, and be ready to share your insights with your classmates.

The aim of this project is to deepen your understanding of materials in D&T and enhance your research and presentation skills.