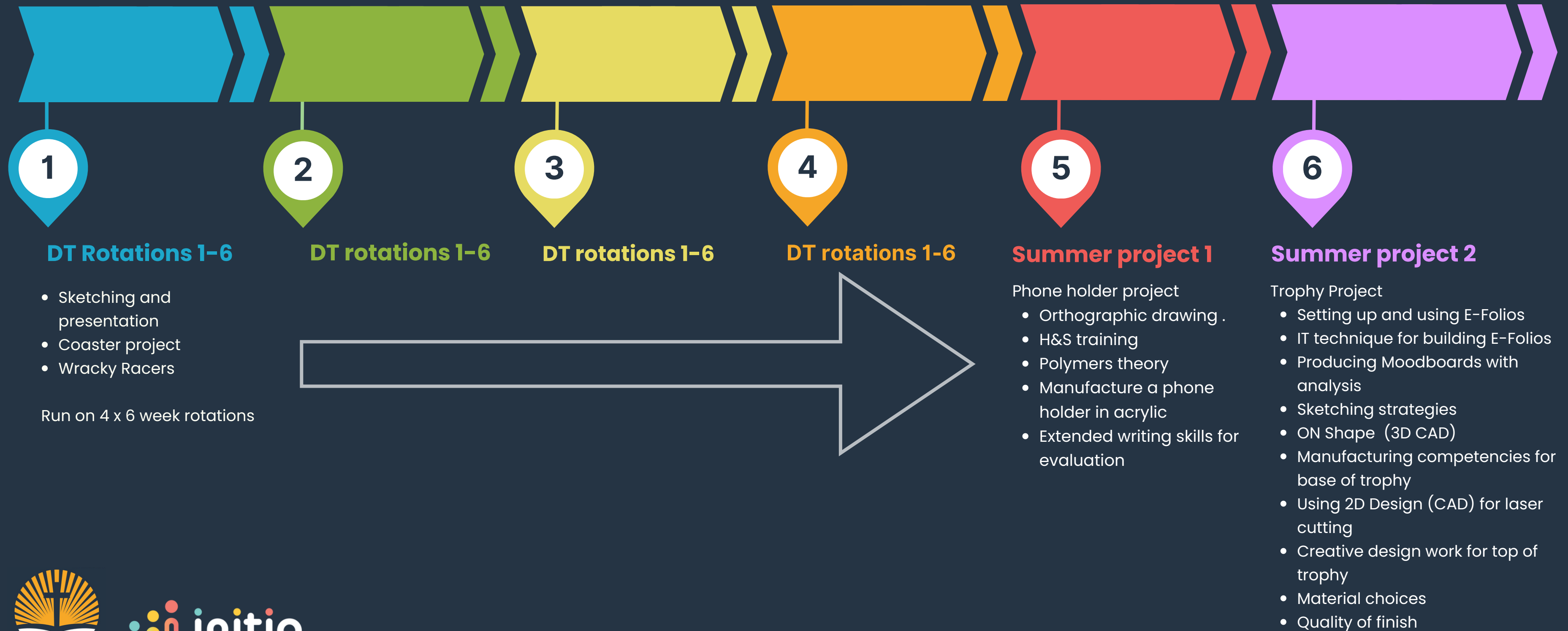


Faculty: Design and Technology

Subject Area: DT

YR9 – DESIGN & TECHNOLOGY



GCSE – DESIGN AND TECHNOLOGY (YR 10)



GCSE – DESIGN AND TECHNOLOGY (YR 11)



QueenElizabeth's School **QE** DESIGN AND TECHNOLOGY

ALEVEL – PRODUCT DESIGN (YR 12)

Chair project

- Designer study
- Ergonomics and Anthropometrics
- Isometric development
- Concept sketching
- Rapid prototyping

Shut The Box

- Performance Characteristics of Woods
- Advanced Skills development and application of wood working techniques.
- Tolerance
- Use of advanced tools

Homeware project

- Ergonomics
- Creative designing
- Innovation
- Materials experimentation
- Independent project development
- Presentation development

Plywood

- Design for Manufacturing, Maintenance, Repair and Disposal
- Feasibility Studies
- Designers and their Work
- Socio-economic Influences
- Social, Moral and Ethical Issues

NEA Section A and B

- Investigating and concept sketching
- Brief and specification
 - Engage a primary client and target user with measurable data
 - Conduct targeted, practical investigation over generic internet searches
 - Draft an unambiguous, user-focused Design Brief

Applied Theory Jewelry Box

- Classification of Polymers
- Use of advanced commercial process in the workshop
- Manufacturing using timber
- Wood Processes

Applied Theory Table Tennis

- Modern Industrial and Commercial Practices
- Digital Design and Manufacture
- Ergonomics Design
- Product analysis

Applied Theory Maze Game

- Classification of Polymers
- Use of advanced commercial process – Vacuum Formers
- Manufacturing using Polymers

Applied Theory Metal Flowers

- Classification of Metals
- Use of advanced commercial process and finishing – Powder coating
- Manufacturing using metal

Applied Theory Cinema Project

- Enhancements of Materials
- Paper and Board Forming Processes
- Advanced Digital Design and Manufacture

ALEVEL – PRODUCT DESIGN (YR 13)

NEA Section C

Developing Designs

- Show a transparent, non-linear iterative design process
- Apply deep technical knowledge of materials, fixings
- Continuously test and evaluate against Section B's Specification

NEA Section D

Manufacturing Designs

- Produce a complete technical drawing package before manufacturing
- Document a detailed, realistic manufacturing plan
- Combine traditional workshop skills with advanced CAD/CAM processes

NEA Section E (Deadline February)

Evaluating

- Test the physical prototype in a real-world environment
- Gather qualitative and quantitative user feedback
- Critically evaluate against every Section B Specification point

Section G Design Processes and Analysis

- Product Life Cycle
- Design Processes
- Critical Analysis

Section I Wider Issues and Standards

- Responsible Design
- Design for Manufacture and Project Management
- National and international standards of design

Revision Paper 1 and 2

- Paper 1 – 2.5 hours
- Paper 2 – 1.5 hours
- Review model answers
- Application of knowledge
- Exam Practice



Section A Materials, Characteristics and Uses

- Materials and their Applications
- Classification of Materials
- Methods for Investigating and Testing Materials
- Performance Characteristics of Paper and Board
- Performance Characteristics of Polymer-based Sheet and Film
- Performance Characteristics of Woods
- Performance Characteristics of Metals
- Performance Characteristics of Polymers

Section B Advanced Materials

- Biodegradable Polymers
- Composites
- Smart Materials
- Modern Materials

Section C Enhancements, Process and Finishes

- Enhancements of Materials
- Paper and Board Forming Processes
- Polymer Processes
- Metal Processes
- Wood Processes
- Adhesives and Fixings
- The Use of Finishes

Section D Industry standards and requirements

- Modern Industrial and Commercial Practices
- Digital Design and Manufacture
- Requirements for Product Design and Development
- Health and Safety
- Protecting Designs and Intellectual Property

Section E Design, Feasibility, manufacture and use

- Design for Manufacturing, Maintenance, Repair and Disposal
- Feasibility Studies
- Enterprise and Marketing in the Development of Products
- Design Communication

Section F Design methods, Influence and Issues

- Design Methods and Processes
- Design influences, Styles and Movements
- Designers and their Work
- Socio-economic Influences
- Major Developments in Technology
- Social, Moral and Ethical Issues