

Subject Learning Journey - KS3 & GCSE Product Design



Electronic Systems

Mechanical Devices

Forces and Structures

Working with Timber and Manufactured Board (Practical Project) Inc. Specialist Techniques

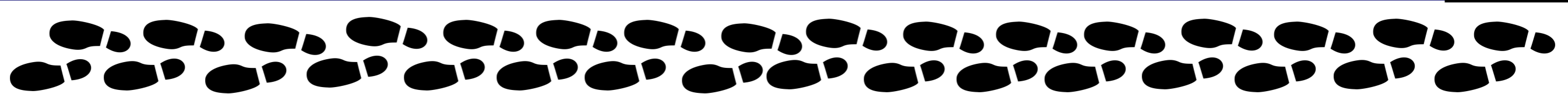
Scales of Production

Market Pull and Technology Push

Designing for Others: Ergonomics and Anthropometrics

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Systems Approach to Designing



Composite Materials and Technical Textiles

Modern and Smart Materials

Energy Generation and Storage

The Environment

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Making Principles: Working with Natural Timber, Manufactured Board and Metals

Making Principles: Working with Polymers

Materials: Paper and Board



Materials: Textiles

Using and Working with Materials (Pine)

Joining Techniques (Finger Joint / Through Housing)

Surface Treatments and Finishes

Testing and Evaluation

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Materials: Natural and Manufactured Timbers

Materials: Polymers

Materials: Metals and Alloys

Drawing in 3D Isometric



Design Brief and Drawing in 3D Oblique

The Environment

Timber Conversion and Stock Forms

Hardwoods and Softwoods

Materials and their Working Properties

Cams

Linkages

Levers

Types of Motion

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Testing and Evaluation



Surface Materials and Finishes



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Materials and their Working Properties

Material Sources and Origins

Material Stock Forms

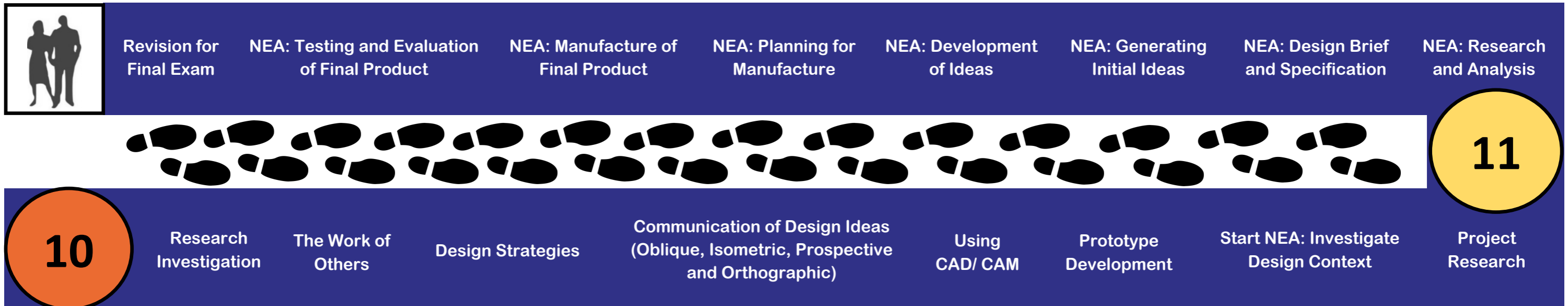
Tolerances

Prototype Development

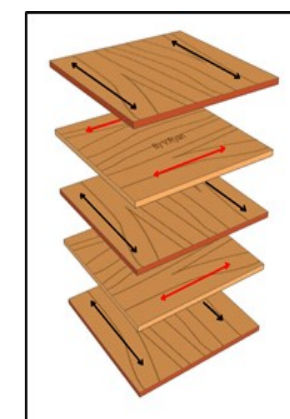
Using and Working with Materials (Plywood, Aluminium & Pine)

Specialist Techniques and Processes

Subject Learning Journey - KS3 & GCSE Product Design



Subject Learning Journey - A-Level Product Design



Testing and Evaluation

National and International Standards in Product Design

Design for Manufacture and Project Management

Responsible Design

Accuracy in Design and Manufacture

Digital Design and Manufacture

Modern and Industrial

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Planning of Final Prototype

Manufacturing of Final Prototype

Design Methods and Processes

Design Theory

Technology and Cultural Changes

Design Processes

Critical Analysis and Evaluation

Selecting the Appropriate Tools, Equipment and Processes

Design Communication

Design Development

Research

Enterprise and Marketing in the Development of Products

Feasibility Studies

Design for Manufacturing, Maintenance, Repair and Disposal

Protecting Designs and Intellectual Property

Health and Safety

The Requirements for Product Design and Development

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Exploring Contexts

Introduction Project (Design Development)

Introduction Project (Practical Skills)

Materials and Their Applications

Performance Characteristics of Materials

Enhancement of Materials

Forming, Redistribution and Additional Processes

The Use of Finishes