Good youtube links:

Design and manufacture

What is D&T – and why do we need it? - <https://www.youtube.com/watch?v=4lLSEDVSAp4&feature=youtu.be>

# Plastic Processes

Injection Molding Animation

<https://www.youtube.com/watch?v=b1U9W4iNDiQ>

Plastic Injection Molding

<https://www.youtube.com/watch?v=RMjtmsr3CqA>

How Was it Made? The Panton Chair – injection moulding

<https://www.youtube.com/watch?v=xim1m2Bhvzc>

Rotational Molding of small or large plastic parts - ASH Industries

<https://www.youtube.com/watch?v=q2xE-VfAjmE&t=158s>

how it's made kayak – rotational moulding

<https://www.youtube.com/watch?v=aS8490xEI1E>

How It's Made Plastic Bottles & Jars – blow moulding

<https://www.youtube.com/watch?v=ZfyPCujUPms>

The blow moulding process

<https://www.youtube.com/watch?v=8W6P5KU5ONQ>

Plastics 101 | National Geographic

<https://www.youtube.com/watch?v=ggh0Ptk3VGE>

How to use a line bender

<https://www.youtube.com/watch?v=C_NUg8gP15g&index=7&list=PLeKynk3Th12WdeZMWNFirKll59EE2CMEZ>

[The 7 Plastic Types](https://www.youtube.com/watch?v=29Az-dPwtg8&list=PLDE5A69832ECC4D26)

<https://www.youtube.com/playlist?list=PLDE5A69832ECC4D26>

Physical Properties of Metals

<https://www.youtube.com/watch?v=NHWcwAijMvk>

EXTRUSION OF PLASTICS ANIMATION

<https://www.youtube.com/watch?v=k7lb-w7o06s7>

Plastic Extrusion

<https://www.youtube.com/watch?v=Tp2Rdx69SSo>

COMPRESSION MOULDING OF PLASTICS

<https://www.youtube.com/watch?v=-FxiWMnY4aQ>

compression moulding process

<https://www.youtube.com/watch?v=VscL0Uw7GRI>

Vacuum Forming Walkthrough

<https://www.youtube.com/watch?v=hukafUxglmE>

Formech 508FS – Manual Vacuum Forming Machine

<https://www.youtube.com/watch?v=BqV_jsxD0UA&t=5s>

# Higher Design and manufacture course overview

HDM OTHER STUFF- Design and Manufacture Theory

<https://www.youtube.com/watch?v=_FCYquY-Mbs>

HDM OTHER OTHER STUFF- Design and Manufacture Theory 2

<https://www.youtube.com/watch?v=-J_2O0RYVXU>

# Nat 5 Design and Manufacture Promo Video

<https://www.youtube.com/watch?v=Hzk0HCEkL-0>

# Woodworking Tools and processes

How it's made - Timber

<https://www.youtube.com/watch?v=SwxinbpQ9B4&index=14&list=PLtCeaeJ34A5KfCUBEJUgENXwsxKXEu84o>

1 - The Wood Lathe Introduction & parts

<https://www.youtube.com/watch?v=2s4UuoCKxe4&list=PLYhGh2tt9ym1TJTdUjMnLzcy4WGxj0gSF>

2 - How to - prepare a Wood Lathe blank

<https://www.youtube.com/watch?v=BBp_vimNU9Y&list=PLYhGh2tt9ym1TJTdUjMnLzcy4WGxj0gSF&index=2>

3 (a) - How to - set up a Wood Lathe (between centres)

<https://www.youtube.com/watch?v=q-QUJNj8nRA&list=PLYhGh2tt9ym1TJTdUjMnLzcy4WGxj0gSF&index=3>

Types of wood and Manufactured Boards 001

<https://www.youtube.com/watch?v=SDF5_1KjWzE>

# Design and manufacture Design Theory

N5 DM developing ideas SCAMPER

<https://www.youtube.com/watch?v=XFfuPwiUKMs>

What is user research and why is it so important in developing services?

<https://www.youtube.com/watch?v=1hbnPCdM4ls&index=4&list=PLtCeaeJ34A5KfCUBEJUgENXwsxKXEu84o>

Prototyping and Model Making - Students of Product Design Episode 5

<https://www.youtube.com/watch?v=gWk6br5Ngkc&index=6&list=PLtCeaeJ34A5KfCUBEJUgENXwsxKXEu84o>

What is Branding?

<https://www.youtube.com/watch?v=JKIAOZZritk&index=12&list=PLtCeaeJ34A5KfCUBEJUgENXwsxKXEu84o>

bright red publishing – national 5 DM

<https://www.youtube.com/channel/UC71WI3_vVIagpAYmnegVC3A>

Color Theory for Noobs | Beginner Guide

<https://www.youtube.com/watch?v=AvgCkHrcj90>

Ergonomics and Design

<https://www.youtube.com/watch?v=LAKlmdMHpdE>

What Is Six Thinking Hats?

<https://www.youtube.com/watch?v=UZ8vF8HRWE4>

Biomimicry. When Nature Inspires Design

<https://www.youtube.com/watch?v=ZODvr_GzNc4>

The IKEA Design Process for the FJÄLLBERGET Chair

<https://www.youtube.com/watch?v=jU-imkEarvU>

How to make a cardboard prototype

<https://www.youtube.com/watch?v=k_9Q-KDSb9o&list=PLeKynk3Th12UDTG7vmJ8UppHN5uBUl8l1&index=4>

Product Design (KS5) - 'Technology Push Failure - The Sinclair C5'

<https://www.youtube.com/watch?v=6Zg6vtpR69k&index=1&list=PLeKynk3Th12VbOSqBmUk4uoRk2ELwEC2Q>

Adam Savage's One Day Builds: Foamcore House! – modelmaking

<https://www.youtube.com/watch?v=ssxCQuv3KzE&index=5&list=PLeKynk3Th12X-6q6lDIA2D4zoxy1_X47w>

# Metal Tools and Processes

Metal Lathe

<https://www.youtube.com/watch?v=wnVGgQems2E>

Nat 5 Common Workshop Machines

<https://www.youtube.com/watch?v=Prev8biU6LY>

Materials & Processes - Metal Types

<https://www.youtube.com/watch?v=Y6l-WoAg7Ys>

Die Casting Animation

<https://www.youtube.com/watch?v=Pj_mjjUQad8>

How It's Made - Alloy Wheels – die casting

<https://www.youtube.com/watch?v=LCMs-7K8nLk>

How It’s Made Cutlery – drop forging

<https://www.youtube.com/watch?v=LJkPwVOasyc>

[Drop forging: What does it mean?](https://www.youtube.com/watch?v=Oxpv5Qca0UU)

[**https://www.youtube.com/watch?v=Oxpv5Qca0UU**](https://www.youtube.com/watch?v=Oxpv5Qca0UU)

Metal Spinning Process

<https://www.youtube.com/watch?v=43N44ICyuEU>

Fast Extreme Big Metal Spinning Process Working, Amazing CNC Metal Spinning Machine

<https://www.youtube.com/watch?v=rqNRRqAjk6g>

Basic MIG Welding

<https://www.youtube.com/watch?v=lzBGZaS1apw>

Turning Tapers on a Manual Lathe

<https://www.youtube.com/watch?v=UUcHS3uzzeY>

Parallel Turning

<https://www.youtube.com/watch?v=Z4LGUDz88VA>

Parting on the Lathe

<https://www.youtube.com/watch?v=fZlWJ_JqQtA>

How to Select the Proper Cutting Tool for Lathe Operations - Basic Tutorial - SMITHY GRANITE 3-in-1

<https://www.youtube.com/watch?v=J63dZsw7Ia4>

Graphic Communication Videos

Orthographic drawing 1

<https://www.youtube.com/watch?v=CACQU-Oe3rQ&t=347s>

SQA Graphic Communication National 4 and National 5 Symbols Dimensioning and Scale

<https://www.youtube.com/watch?v=w6g_dxmIrh0>

SQA Graphic Communication National and 4 National 5 Colour Theory

<https://www.youtube.com/watch?v=KQp6kmTWv9w>

SQA Graphic Communication National 4 and National 5 Layout design principles elements

<https://www.youtube.com/watch?v=-w36iGc7XHQ>

SQA Graphic Communication National 4 and National 5 CAD

<https://www.youtube.com/watch?v=BCtcnRV3Jms>

Tangency Intro 1

<https://www.youtube.com/watch?v=FIPYTQg7S8s>

Tangency Intro 2

<https://www.youtube.com/watch?v=g4pPF3czYPk>

**Section Views: What are they and How to Create one**

<https://www.youtube.com/watch?v=0x4Mq3plkEw>

Graphics Revision theory 1

<https://www.youtube.com/watch?v=oXOzTKosOts>

Graphics Revision theory 2

<https://www.youtube.com/watch?v=wDy8JVbcI5w>

The Principles of Design

<https://www.youtube.com/watch?v=ZK86XQ1iFVs>

How to Illustrate a Wooden Surface: Marker + Colored Pencil

<https://www.youtube.com/watch?v=2CJlCA7Qh9c>

How to Draw Chrome Effects (For Lettering, Logos, etc)

<https://www.youtube.com/watch?v=VwYg-s0YX7k>

**Chrome materials rendering**

<https://www.youtube.com/watch?v=NE22dVrQhWM>

**producttank** -Series of video - Sketching

<https://www.youtube.com/channel/UCxyQKi7ipjA3Cz-VQUYanNQ>

How to use colored pencils! Layering, blending, & more!

<https://www.youtube.com/watch?v=FBZa4RdBe08>

Smartorial.com - Rendering Basic Shapes in Prismacolor Grey Markers

<https://www.youtube.com/watch?v=lfr7rLNBoBY&t=774s>

How to sketch shiny shiny things

<https://www.youtube.com/watch?v=i7lkAUePXt4>

**Glass material rendering**

<https://www.youtube.com/watch?v=WbSUpliv0Qk>

Abstract Texture #15: Glass Texture

<https://www.youtube.com/watch?v=BThwEejcENc>

**idcreatures**

<https://www.youtube.com/channel/UCXMEjFhvOE1NCgePCoW0vpg>

product tank

<https://www.youtube.com/user/producttank>

sketchaday

<https://www.youtube.com/user/sketchadaydotcom>

**TheSketchMonkey**

<https://www.youtube.com/channel/UC7ByeCDZocCg9c0F-PWW_kg>

Other good videos

[Section 2 - Energy Generation](https://www.youtube.com/watch?v=DILJJwsFl3w&list=PLeKynk3Th12XNUVm8XpaGeqv1IAiUUTm9)

<https://www.youtube.com/playlist?list=PLeKynk3Th12XNUVm8XpaGeqv1IAiUUTm9>

[GRO3 DESIGN FOR THE FUTURE](https://www.youtube.com/watch?v=O8Vy7xIQ8gU&list=PLeKynk3Th12W_3RO9ltjCvFa13vF7xXIB) – design movements

<https://www.youtube.com/playlist?list=PLeKynk3Th12W_3RO9ltjCvFa13vF7xXIB>

<https://www.youtube.com/watch?v=NsfL8KpM7Qs&list=PLeKynk3Th12Ur5jjmCWWl7dj4bVYWzQ22>

Plastic IDL videos

What really happens to the plastic you throw away - Emma Bryce

<https://www.youtube.com/watch?v=_6xlNyWPpB8&list=PLeKynk3Th12X8W2-3u4PtzXd_a2wfWHl_&index=9>

How Much Plastic is in the Ocean?

<https://www.youtube.com/watch?v=YFZS3Vh4lfI&index=10&list=PLeKynk3Th12X8W2-3u4PtzXd_a2wfWHl_>