

**Build skills.  
Build capability.  
Build confidence.**



# Our training courses

## Composite materials

### Introduction to composite materials

The fundamentals of composite materials - What are they? Where are they used? What are their advantages and drawbacks? Plus, in our in-person course, manufacture a simple part to fully embed the understanding.

<b>In person</b>	Duration: 1 day	Places: 10
<b>Virtual</b>	Duration: 3 hours	Places: 15
<b>eLearning</b>	Duration: Self-paced	Places: Unlimited

COMPOSITE MATERIALS / MANUFACTURE



I.M3

### Introduction to ceramic matrix composites

Understand ceramic matrix composites (CMCs) and their role in high-temperature engineering applications. You'll learn why and how CMCs are made, how to select materials and processes, and gain hands-on experience with a common manufacturing method.

<b>In person</b>	Duration: 2 days	Places: 8
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COMPOSITE MATERIALS / DESIGN



### Introduction to design for composites

Confidently select the right materials for your designs and assess your options for manufacture. Understand composite design guidelines so you can successfully build your products.

<b>In person</b>	Duration: 1 day	Places: 10
<b>Virtual</b>	Duration: 2 mornings	Places: 15
<b>eLearning</b>	Duration: Self-paced	Places: Unlimited

COMPOSITE MATERIALS / DESIGN



I.M3

### Composite strength and stiffness

Detailed understanding of how your design decisions affect laminate performance. Explore Rule of Mixtures and Classical Laminate Analysis. Consolidate your knowledge with design exercises under the supervision of our design experts.

<b>In person</b>	Duration: 2 days	Places: 10
<b>Virtual</b>	Duration: 4 mornings	Places: 15

COMPOSITE MATERIALS / DESIGN



I.M3

Engineering doesn't stand still - and neither should your team. At NCC, we help manufacturers strengthen practical skills and technical confidence across composites, sustainability, hydrogen and digital engineering. Whether you need to upskill your workforce, deepen specialist capability, or explore new technologies, we'll work with you to find the right path.

Our training is developed and delivered by engineers with real-world experience - people who understand what works. We offer flexible options: from short courses to tailored programmes, delivered online, on site or in person at NCC's world-class facilities.

We support every step of your journey - from hands-on skills to strategic insight. Our training is grounded in practice and focused on what makes a difference.

# Composite materials

## Composite joining principles

Design and analyse joints in composite structures. Justify selection of joining method, understand key part design principles, and analyse structures to define shape and size.

**In person** | Duration: 2 days | Places: 10

**Virtual** | Duration: 4 mornings | Places: 15

COMPOSITE MATERIALS / DESIGN



I-M3

## Level 2 composite manufacturing award

Our Level 2 qualification provides a practical and accessible introduction to composite materials and the manufacturing techniques widely used across industries such as aerospace, defence, automotive, marine and renewable energy. See our website for full details.

**In person** | Duration: 40 hours | Places: 10

COMPOSITE MATERIALS / MANUFACTURE



PIABC

## Introduction to wet lay-up

Make high quality wet lay-up parts. Learn fundamental practical skills for gel coating and lamination in this skill-intensive manufacturing process.

**In person** | Duration: 2 days | Places: 6

COMPOSITE MATERIALS / MANUFACTURE



I-M3

## Introduction to resin infusion techniques

A staple manufacturing process across almost every industry sector - gain fundamental knowledge needed to design infusion strategies and essential skills to set up infusions.

**In person** | Duration: 2 days | Places: 8

COMPOSITE MATERIALS / MANUFACTURE



I-M3

## Introduction to manual prepreg techniques

The essentials for manufacturing with prepreg materials. You'll experience the right techniques for laminating parts, and understand critical concepts for material storage, lamination and curing.

**In person** | Duration: 2 days | Places: 8

## Intermediate manual prepreg techniques

Independently create high-quality prepreg composite parts with challenging geometries. Manufacture parts with woven and unidirectional fabrics. Work according to good practice and see how doing so prevents mistakes.

**In person** | Duration: 2 days | Places: 8

COMPOSITE MATERIALS / MANUFACTURE



I-M3

## Composites assembly techniques

Assemble composite structures properly. Learn good practice that overcomes the unique challenges of fastening and bonding composite materials. A perfect complement to our Composite joining principles theory course.

**In person** | Duration: 2 days | Places: 6

COMPOSITE MATERIALS / MANUFACTURE



I-M3

## Introduction to composite repair

Keep your composite parts in top condition. Experience fundamental structural repair methods for the marine, wind energy and aerospace industries.

**In person** | Duration: 2 days | Places: 4

## Intermediate composite repair

Take your repair skills to the next level. Work on tricky repairs to sandwich panels and curved geometry. Learn how to restore minor cosmetic damage.

**In person** | Duration: 2 days | Places: 4

COMPOSITE MATERIALS / MANUFACTURE



I-M3

## Composite mould tool production

Make composite parts from scratch. Learn the manual skills for shaping master patterns and making high quality moulds which lead to exceptional products.

**In person** | Duration: 2 days | Places: 6

COMPOSITE MATERIALS / MANUFACTURE



I-M3

## Introduction to automation for composites production

Explore the wide array of automated production methods for composite materials. Understand the key terms, know when to automate, and select the right automation methods for your needs.

**In person** | Duration: 1 day | Places: 10

**Virtual** | Duration: 2 mornings | Places: 15

**eLearning** | Duration: Self-paced | Places: Unlimited

COMPOSITE MATERIALS / MANUFACTURE



I-M3

## Composite measurement & inspection techniques

Verify composite part geometry and quality. Understand key verification concepts, common defects in composite parts, and select suitable methods to ensure quality.

**In person** | Duration: 1 day | Places: 10

**Virtual** | Duration: 2 mornings | Places: 15

**eLearning** | Duration: Self-paced | Places: Unlimited

COMPOSITE MATERIALS / VERIFICATION



I-M3

## Composite materials

### Composites for non-destructive testing practitioners

Inspect composite structures with confidence. You'll manufacture composite parts, learn about common defects, and then inspect them using state of the art methods and equipment.

**In person** | Duration: 2 days | Places: 6

COMPOSITE MATERIALS / VERIFICATION



## Sustainability

### Introduction to sustainability in composites

Make your composite products more environmentally friendly. Understand key sustainability concepts, how to measure the impact, and options for using composite materials responsibly.

**In person** | Duration: 1 day | Places: 10  
**Virtual** | Duration: 2 mornings | Places: 15  
**eLearning** | Duration: Self-paced | Places: Unlimited

SUSTAINABILITY / DESIGN



I-M3

### Design for sustainability

Create environmentally friendly products with an understanding of key sustainability concepts, impact measurement methods, and options for improving circularity and climate change impacts.

**In person** | Duration: 1 day | Places: 10

SUSTAINABILITY / DESIGN



I-M3

### Sustainability maturity levels

Assess your progress towards making sustainable products using the Sustainability Maturity Levels (SML) framework. Created through the ASCEND project led by GKN Aerospace.

**eLearning** | Duration: Self-paced | Places: Unlimited

SUSTAINABILITY / DESIGN



## Hydrogen

### Hydrogen awareness modules

Get on board with hydrogen energy! Learn how hydrogen is made, moved and used to power the future in these free eLearning modules produced by the High Value Manufacturing Catapult.

**eLearning** | Duration: Self-paced | Places: Unlimited

HYDROGEN / DESIGN



### Hydrogen storage

Understand the challenges faced when storing hydrogen. These 4 modules show you how to assess different storage options and understand the process for designing and manufacturing a hydrogen tank.

**eLearning** | Duration: Self-paced | Places: Unlimited

HYDROGEN / DESIGN



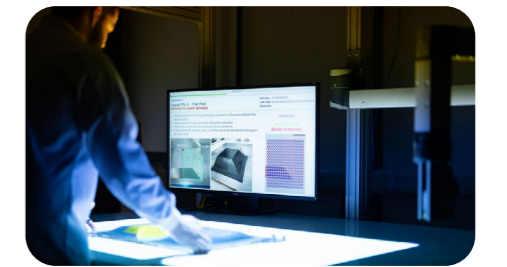
## Digital

### Digital technology awareness

Discover how digital technology can benefit your manufacturing business. Our eLearning shows you the opportunities and provides tools to plan your development journey.

**eLearning** | Duration: Self-paced | Places: Unlimited

DIGITAL TECHNOLOGY / MANUFACTURE



## Ready to take the next step?

Whether you're looking for an open course, a bespoke training package, or advice on how to build capability across your team, our Skills team is here to help.

We're continually developing new content across our full technology portfolio. Visit our website for the latest updates or speak to us about what you need next.

→ Email: [training@nccuk.com](mailto:training@nccuk.com)

→ Call: +44 (0)117 370 7600  
(Mon-Fri, 09:00-16:00 GMT)

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