



# FIT Learning Pathways with Choose Tech

## Welcome to the Classroom to Career Learning Pathways programme

If your students are interested in technology, or know nothing about technology, the FIT Learning Pathways programme will increase their awareness of tech roles and the pathways to a tech career including Tech Apprenticeships and skills training programs.

### Programme Structure

Students will complete micro-credential modules that are aligned to various tech roles in Software Development, Cybersecurity, Computer Networking, Data Analytics, Advanced Manufacturing, Green Tech and transversal soft skills highly desired by tech employers.

There are three levels of learning for each of the tech roles – Bronze, Silver & Gold.

Learners will start at the Bronze Level with the aim of achieving a Bronze Award by completing the Core Technical modules and Support Knowledge modules for each role.

1. Software Development
2. Cybersecurity
3. Computer Networking
4. Data Analytics
5. Advanced Manufacturing
6. Green Tech
7. Transversal soft skills

For learners to gain the full benefit of the programme, we recommend completing all bronze level badges.

Once the bronze level is completed, the learner can progress on to the silver level and then gold level modules (please note there is currently no Gold Award, it is still in development).

### Important Notes

- Bronze badges can be completed in any order
- Silver badges must be completed in sequential order within each pathway:  
Foundation → Activation → Resolution
- Gold badges represent the most challenging and will take longer to complete

To achieve a **Bronze Award**, you must achieve 250 points made up of a minimum of 50 points from the key learning categories (Worker, Maker, Entrepreneur, Citizen) and the additional 50 can be Gamer or across the learning categories.

#### Points breakdown per programme

Programme	Bronze Category	Worker	Maker	Entrepreneur	Citizen	Gamer
Software Development	Points	50	65	8	8	25
Computer Networking	Points	26	0	0	48	0
Data Analytics	Points	47	0	13	18	0
Cybersecurity	Points	0	0	0	71	0
Advanced Manufacturing	Points	8	38	8	8	0
Green Tech	Points	32	0	16	23	0
Core Skills	Points	52	0	18	13	0
<b>TOTALS*</b>		<b>215</b>	<b>103</b>	<b>63</b>	<b>189</b>	<b>25</b>

\*There will be duplication of some modules across the roles so please keep an eye on the points tally per Learning Category to ensure you are achieving the right points.

#### Silver Award

To achieve a **Silver Award**, you will need at least 400 points and to have completed 4 of the 5 categories. The Citizen category is mandatory in the Silver Award. You can choose which 3 out of the 4 remaining categories you want to do, or even do them all to qualify as a Silver Award Star

**Foundation** is worth 20 points, **Activation** is worth 25 points and **Resolution** is worth 30 points.

#### Modules to complete per sector

### Software Development

This pathway combines practical coding skills, user experience design, and modern development concepts. It begins with fundamental programming concepts through Python and web development, progresses through interface design and AI concepts. The combination of technical and design-focused badges ensures developers can both code effectively and create user-friendly applications. The Silver pathway through Maker badges builds comprehensive technical skills, while the optional Worker pathway develops professional workplace capabilities.

## Bronze Badges

### Core Technical:

- **Python Quiz** (Gamer) <https://idea.org.uk/badge/python>  
Learn how to build a quiz in Python and understand coding basics – 20 points
- **CoderDojo Randomness** (Worker) <https://idea.org.uk/badge/random-coding>  
Enhance game design by using the secret art of randomness and number generators - 20
- **Coding Solutions** (Maker) <https://idea.org.uk/badge/coding-solutions>  
Learn how to analyse and fix errors in code through effective troubleshooting – 10
- **jQuery Coding** (Maker) <https://idea.org.uk/badge/jquery>  
Learn to combine jQuery with HTML and CSS for enhanced web functionality - 15
- **Making Websites** (Maker) <https://idea.org.uk/badge/making-websites>  
Create websites and blogs with easy-to-follow guidance - 10
- **Junior Web Designer** (Maker) <https://idea.org.uk/badge/web-developer>  
Introduction to web development using Bootstrap framework - 10
- **Video Editing** (Maker) <https://idea.org.uk/badge/video-editing>  
Learn digital content creation and video storytelling skills - 10
- **User Experience** (Worker) <https://idea.org.uk/badge/ux>  
Discover best practices in web development from industry experts - 10
- **User Interfaces** (Worker) <https://idea.org.uk/badge/ui>  
Design compelling online experiences with great interfaces\* - 10

### Supporting Knowledge:

- **AI Project Cycle** (Maker) <https://idea.org.uk/badge/ai-project-cycle>  
Learn about the 6 stages of AI project development and problem-solving - 10
- **What is AI?** (Worker) - <https://idea.org.uk/badge/what-is-ai>  
Understand AI fundamentals and its applications in technology - 10
- **Digital Ethics** (Citizen) <https://idea.org.uk/badge/digital-ethics>  
Understanding ethical considerations in software development - 8
- **BAFTA Game Concept** (Gamer) <https://idea.org.uk/badge/bafta-game-concept-ygd>  
Learn game design principles and development concepts - 5
- **Innovation** (Entrepreneur) <https://idea.org.uk/badge/innovation>  
Develop creative problem-solving skills for technology – 8

## Silver Badge Sequences

### Primary Path (Required Sequential Order):

1. **Maker Foundation** <https://idea.org.uk/badge/silver-maker-1>  
Introduction to graphics, colours, and design fundamentals - 20
2. **Maker Activation** <https://idea.org.uk/badge/silver-maker-2>  
Core coding syntax, 3D modeling, and AI skills - 25
3. **Maker Resolution** <https://idea.org.uk/badge/silver-maker-3>  
Advanced coding with HTML and PHP, web development - 30

### Additional Recommended Path (Required Sequential Order):

1. **Worker Foundation** <https://idea.org.uk/badge/silver-worker-1>  
Digital workplace skills and communication - 20
2. **Worker Activation** <https://idea.org.uk/badge/silver-worker-2>  
Planning, research, and problem-solving skills - 25
3. **Worker Resolution** <https://idea.org.uk/badge/silver-worker-3>  
Advanced workplace problem-solving and web design - 30

## Gold Badges

- **Chatbots** (Maker) <https://idea.org.uk/badge/chatbots> - 30
- **Digital Ethics** (Citizen) <https://idea.org.uk/badge/digital-ethics-gold> - 30

## Computer Networking

Focuses on building essential networking and infrastructure management skills. Combines technical knowledge of cloud computing, system administration, and network architecture with cybersecurity awareness. The pathway emphasizes both technical competency and the crucial aspects of network maintenance and security.

## Bronze Badges

### Core Technical:

- **What is the Cloud?** (Citizen) <https://idea.org.uk/badge/cloud> *Understand cloud computing and its practical applications* - 8
- **SysAdmin** (Worker) - <https://idea.org.uk/badge/sys-admin> *Master system administration and troubleshooting* - 10
- **Internet & Web** (Citizen) - <https://idea.org.uk/badge/internet-and-web> *Learn internet infrastructure and web technologies* - 12
- **Projects** (Worker) - <https://idea.org.uk/badge/projects> *Manage technical projects effectively* – 8



- **Collaboration** (Worker) - <https://idea.org.uk/badge/collaboration> *Build team-based infrastructure management skills - 8*

Supporting Knowledge:

- **Safe Online** (Citizen) - <https://idea.org.uk/badge/safe-online> *Network security fundamentals - 10*
- **GDPR** (Citizen) - <https://idea.org.uk/badge/gdpr> *Data protection and compliance - 10*
- **Automation** (Maker) - <https://idea.org.uk/badge/automation> *Network automation principles - 20*
- **Digital Ethics** (Citizen) - <https://idea.org.uk/badge/digital-ethics> *Understanding ethical considerations in networking – 8 points*
- **Cyber Security** (Citizen) - <https://idea.org.uk/badge/wirehive> *Master fundamental security concepts – 8 points*

## Silver Badge Sequences

Primary Path (Required Sequential Order):

1. **Citizen Foundation** - <https://idea.org.uk/badge/silver-citizen-1> *Digital infrastructure fundamentals - 20*
2. **Citizen Activation** - <https://idea.org.uk/badge/silver-citizen-2> *Network security implementation - 25*
3. **Citizen Resolution** - <https://idea.org.uk/badge/silver-citizen-3> *Advanced network management - 30*

Additional Recommended Path (Required Sequential Order):

1. **Worker Foundation** - <https://idea.org.uk/badge/silver-worker-1> *Professional networking skills - 20*
2. **Worker Activation** - <https://idea.org.uk/badge/silver-worker-2> *Technical project management - 25*
3. **Worker Resolution** - <https://idea.org.uk/badge/silver-worker-3> *Complex infrastructure solutions - 30*

## Data Analytics

Designed to develop comprehensive data analysis capabilities, from fundamental statistical concepts to advanced AI applications. Combines technical skills in data handling with critical thinking and analytical problem-solving. Emphasizes both technical proficiency and the ability to derive meaningful insights from data.

### Bronze Badges

#### Core Technical:

- **Big Data** (Entrepreneur) - <https://idea.org.uk/badge/big-data> *Understanding big data concepts and applications* - 8
- **Maths Tools for AI** (Worker) - <https://idea.org.uk/badge/maths-tools-for-ai> *Mathematical foundations for data analysis* - 15
- **Problem Solving with AI** (Worker) - <https://idea.org.uk/badge/problem-solving-with-ai> *AI applications in data analysis* - 12
- **Data Play** (Citizen) - <https://idea.org.uk/badge/data-play> *Practical data investigation skills* - 10

#### Supporting Knowledge:

- Digital Research (Worker) - <https://idea.org.uk/badge/research> *Advanced research methodologies* - 20
- Problem Solving (Entrepreneur) - <https://idea.org.uk/badge/problem-solving> *Analytical thinking techniques* - 5
- Digital Ethics (Citizen) - <https://idea.org.uk/badge/digital-ethics> *Ethical data handling* - 8

### Silver Badge Sequences

#### Primary Path (Required Sequential Order):

1. Worker Foundation - <https://idea.org.uk/badge/silver-worker-1> *Data analysis foundations* -20
2. Worker Activation - <https://idea.org.uk/badge/silver-worker-2> *Advanced analytical techniques* - 25
3. Worker Resolution - <https://idea.org.uk/badge/silver-worker-3> *Complex data projects* - 30

#### Additional Recommended Path (Required Sequential Order):

1. Maker Foundation - <https://idea.org.uk/badge/silver-maker-1> *Technical visualisation skills* - 20



2. Maker Activation - <https://idea.org.uk/badge/silver-maker-2> *Data tools and applications - 25*
3. Maker Resolution - <https://idea.org.uk/badge/silver-maker-3> *Advanced data solutions = 30*

## Gold Badges

- AI Inference (Worker) - <https://idea.org.uk/badge/ai-inference> *Advanced AI data analysis - 30*
- Digital Ethics (Citizen) - <https://idea.org.uk/badge/digital-ethics-gold> *Advanced ethical data handling - 35*

## Cybersecurity

This cybersecurity pathway develops skills from fundamental safety awareness to advanced threat detection. It emphasizes both technical security implementation and ethical considerations, preparing apprentices to protect digital assets and information systems.

### Bronze Badges

*Core Technical:*

- Cyber Security (Citizen) - <https://idea.org.uk/badge/wirehive> *Security fundamentals and threat protection 8*
- Cyber Spies (Citizen) - <https://idea.org.uk/badge/cyber-spies> *Practical security testing and ethical hacking 10*
- Safe Online (Citizen) - <https://idea.org.uk/badge/safe-online> *Online safety and security best practices 10*
- GDPR (Citizen) - <https://idea.org.uk/badge/gdpr> *Data protection and privacy requirements 10*
- Data Play (Citizen) - <https://idea.org.uk/badge/data-play> *Security investigation techniques 10*

*Supporting Knowledge:*

- E-Safety & Online Etiquette (Citizen) - <https://idea.org.uk/badge/esafety> *Digital safety and responsible behavior 10*
- Social Media Ethics (Citizen) - <https://idea.org.uk/badge/ethics-safety-social-media> *Social platform security 8*

- Fake News (Citizen) - <https://idea.org.uk/badge/fake-news> Information verification skills  
5

## Silver Badge Sequences

*Primary Path (Required Sequential Order):*

1. Citizen Foundation - <https://idea.org.uk/badge/silver-citizen-1> Security fundamentals and responsibilities
2. Citizen Activation - <https://idea.org.uk/badge/silver-citizen-2> Advanced security implementation
3. Citizen Resolution - <https://idea.org.uk/badge/silver-citizen-3> Complex security solutions

*Additional Recommended Path (Required Sequential Order):*

1. Worker Foundation - <https://idea.org.uk/badge/silver-worker-1> Professional security practices
2. Worker Activation - <https://idea.org.uk/badge/silver-worker-2> Security operations
3. Worker Resolution - <https://idea.org.uk/badge/silver-worker-3> Advanced threat management

## Gold Badges

- Fake News Detector (Citizen) - <https://idea.org.uk/badge/fake-news-detector> Advanced threat detection and analysis
- Digital Ethics (Citizen) - <https://idea.org.uk/badge/digital-ethics-gold> Advanced security ethics

## Advanced Manufacturing

Focuses on modern manufacturing technologies including robotics, automation, virtual/augmented reality, and AI applications in manufacturing. This pathway combines practical technical skills with innovative thinking, preparing apprentices for Industry 4.0 environments. Emphasis is placed on both technological competency and understanding of smart manufacturing principles.

## Bronze Badges

**Core Technical:**

- Virtual Reality (Maker) - <https://idea.org.uk/badge/virtual-reality> VR/AR technologies and implementation 8





- Automation (Maker) - <https://idea.org.uk/badge/automation> Industrial automation principles 20
- AI Project Cycle (Maker) - <https://idea.org.uk/badge/ai-project-cycle> AI in manufacturing applications 10

### **Supporting Knowledge:**

- Innovation (Entrepreneur) - <https://idea.org.uk/badge/innovation> Manufacturing innovation principles 8
- Projects (Worker) - <https://idea.org.uk/badge/projects> Project management for manufacturing 8
- Digital Ethics (Citizen) - <https://idea.org.uk/badge/digital-ethics> Ethical considerations in automation 8

## **Silver Badge Sequences**

### **Primary Path (Required Sequential Order):**

1. Maker Foundation - <https://idea.org.uk/badge/silver-maker-1> Technical manufacturing foundations
2. Maker Activation - <https://idea.org.uk/badge/silver-maker-2> Advanced manufacturing technologies
3. Maker Resolution - <https://idea.org.uk/badge/silver-maker-3> Complex manufacturing solutions

### **Additional Recommended Path (Required Sequential Order):**

1. Worker Foundation - <https://idea.org.uk/badge/silver-worker-1> Professional manufacturing skills
2. Worker Activation - <https://idea.org.uk/badge/silver-worker-2> Operations management
3. Worker Resolution - <https://idea.org.uk/badge/silver-worker-3> Advanced manufacturing operations

## **Gold Badges**

- Computer Vision (Maker) - <https://idea.org.uk/badge/computer-vision> Advanced machine vision systems
- Robotics (Maker) - <https://idea.org.uk/badge/robotics> Advanced robotics applications

## Green Tech

This pathway focuses on technology applications for sustainability and circular economy principles. It combines environmental awareness with practical tech solutions for sustainability challenges. Apprentices develop skills in implementing and managing green technologies while understanding their environmental impact and benefits.

### Bronze Badges

Core Technical:

- Farm Tech (Citizen) - <https://idea.org.uk/badge/farm-tech> Sustainable agriculture technology applications - 5
- Global Goals (Citizen) - <https://idea.org.uk/badge/GlobalGoals> UN SDGs and sustainability frameworks - 10
- Innovation (Entrepreneur) - <https://idea.org.uk/badge/innovation> Green innovation and sustainable solutions - 8
- Automation (Maker) - <https://idea.org.uk/badge/automation> Efficient systems and sustainable automation

Supporting Knowledge:

- Digital Ethics (Citizen) - <https://idea.org.uk/badge/digital-ethics> Ethical considerations in green tech - 8
- Problem Solving with AI (Worker) - <https://idea.org.uk/badge/problem-solving-with-ai> AI solutions for sustainability - 12
- Digital Research (Worker) - <https://idea.org.uk/badge/research> Environmental data analysis - 20
- Blockchain (Entrepreneur) - <https://idea.org.uk/badge/blockchain> Blockchain technology for sustainable solutions - 8

### Silver Badge Sequences

Primary Path (Required Sequential Order):

1. Maker Foundation - <https://idea.org.uk/badge/silver-maker-1> Sustainable technology foundations - 20
2. Maker Activation - <https://idea.org.uk/badge/silver-maker-2> Green technology implementation
3. Maker Resolution - <https://idea.org.uk/badge/silver-maker-3> Advanced sustainable solutions

Additional Recommended Path (Required Sequential Order):

1. Entrepreneur Foundation - <https://idea.org.uk/badge/silver-entrepreneur-1> *Sustainable innovation principles*
2. Entrepreneur Activation - <https://idea.org.uk/badge/silver-entrepreneur-2> *Green business development*
3. Entrepreneur Resolution - <https://idea.org.uk/badge/silver-entrepreneur-3> *Sustainable enterprise solutions*

## Gold Badges

- Digital Ethics (Citizen) - <https://idea.org.uk/badge/digital-ethics-gold> *Advanced sustainability ethics*
- AI Inference (Worker) - <https://idea.org.uk/badge/ai-inference> *AI applications in sustainability*

## Core Skills Modules

These essential skills modules are relevant to all careers within the tech sector and develop crucial workplace capabilities.

### Communication & Collaboration

- Collaboration (Worker) - <https://idea.org.uk/badge/collaboration> *Team collaboration and communication* - 8
- Digital Portfolios (Worker) - <https://idea.org.uk/badge/digitalportfolios> *Professional presentation skills* - 8
- Working and Learning from Home (Worker) - <https://idea.org.uk/badge/working-and-learning-from-home> *Remote working effectiveness* - 5

### Problem Solving & Critical Thinking

- Problem Solving (Entrepreneur) - <https://idea.org.uk/badge/problem-solving> *Analytical thinking and solution development* - 5
- Innovation (Entrepreneur) - <https://idea.org.uk/badge/innovation> *Creative problem-solving* - 8
- Growth Mindset (Entrepreneur) - <https://idea.org.uk/badge/growth-mindset> *Developing learning resilience* - 5
- Fake News (Citizen) - <https://idea.org.uk/badge/fake-news> *Information verification and critical analysis* - 5

## Professional Development

- Digital Careers (Worker) - <https://idea.org.uk/badge/digital-careers> *Career planning and development - 5*
- Digital Pathways (Worker) - <https://idea.org.uk/badge/digital-pathways> *Professional progression planning - 5*
- Interviews (Worker) - <https://idea.org.uk/badge/interviews> *Interview preparation and skills - 8*

## Adaptability & Personal Growth

- Brain Hack (Citizen) - <https://idea.org.uk/badge/brain-hack> *Learning optimization techniques - 8*
- Crisis Management (Worker) - <https://idea.org.uk/badge/crisis-management> *Adaptability and resilience - 5*
- Projects (Worker) - <https://idea.org.uk/badge/projects> *Project management fundamentals - 8*

## Recommended Silver Badge Sequence for Core Skills

1. Worker Foundation - <https://idea.org.uk/badge/silver-worker-1> *Professional fundamentals - 20*
2. Worker Activation - <https://idea.org.uk/badge/silver-worker-2> *Advanced workplace skills - 30*
3. Worker Resolution - <https://idea.org.uk/badge/silver-worker-3> *Professional mastery - 35*