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TEACHERS AND LECTURERS

Networks & Connectivity careers: a guide for teachers and lecturers

Digital Highways & Comms

Figures checked from 11 July 2026. Built from the TechSkills Career Matrix.

About this guide

This guide is for teachers and lecturers who advise students on careers in Networks & Connectivity.

It is built from the TechSkills Career Matrix and Career Planner. Every pay, hiring and funding figure shows its source and the date it was checked. Where our data has a gap, the guide says so.

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Produced by	TechSkills, techskills.org

Networks & Connectivity at a glance

No.	Area of work	What it covers	Example roles	Pay range
01	Network Engineering	Designing and managing the routers, switches, and firewalls of major organisations.	Network Engineer, NOC Analyst, Network Architect, LAN/WAN Specialist	£27,000 to £85,000+
02	Telecommunications (5G)	The world of wireless, mobile, and next-gen cellular connectivity.	Telecoms Engineer, Radio Planning Engineer, Field Engineer, Core Network Engineer	£32,500 to £87,000+
03	Digital Infrastructure (Fibre)	The physical world of fibre-optic cables that link cities and continents.	Fibre Technician, Planning Officer, Submarine Cable Engineer	£28,500 to £91,500+
04	IoT & Wireless Tech	Connecting billions of smart devices, from meters to satellites.	IoT Solutions Architect, Wireless Specialist, Satellite Comm Engineer	£37,000 to £80,000+
05	Software Defined (SDN)	The modern way of managing networks via code rather than physical cables.	NetDevOps Engineer, SDN Architect, Cloud Networking	£52,500 to £85,000+
06	Emerging Tech	Pioneering the next wave, from Quantum Comms to 6G.	Quantum Comms Engineer, 6G Researcher, Mesh Network Architect	£60,000 to £110,000+
07	Network Security & Access Control	Designing firewalls, VPNs, and zero-trust access controls that stop threats moving across a network.	Network Security Engineer, Firewall Administrator, Zero Trust Architect, VPN Specialist	£46,000 to £102,000+
08	Enterprise & Unified Communications	Designing the voice, video, and collaboration infrastructure that keeps distributed teams and customers connected.	UC Engineer, VoIP Specialist, Collaboration Platform Lead, Contact Centre Engineer	£32,750 to £70,000+

Pay ranges come from job advert data. The source for each range is shown with the area of work in the next section.

The areas of work, one by one

01 Network Engineering

What it is	Designing and managing the routers, switches, and firewalls of major organisations.
Example roles	Network Engineer, NOC Analyst, Network Architect, LAN/WAN Specialist
Skills used	CCNA/CCNP; Routing/Switching; OSPF/BGP; Firewalls; Python
Who it suits	Analytical minds who enjoy the 'plumbing' and flow of digital information.
Example of the work	Designing the secure internal network for a new multi-site headquarters.
What shows someone can do it	Ability to design and maintain the routing and switching infrastructure an entire organisation depends on.
Sectors that hire	Financial Services, Government & Public Sector, Telecommunications, Healthcare & Life Sciences, Manufacturing & Engineering
Pay	£27,000 to £85,000+. Source: IT Jobs Watch: Junior Network Engineer to Network Architect medians; ONS ASHE median £45,079, IT network professionals.

Apprenticeship route: Network Engineer, Apprenticeship Route

What it is	Install and maintain real organisational networks and provide technical support to users, for a real employer, from day one, rather than studying networking theory first.
Example roles	Network Engineer Apprentice, Junior NOC Analyst, Associate Network Engineer
What suits this route	Comfortable learning on the job with structured mentoring rather than lecture based study; Wants to earn a wage and avoid student debt while training; Can meet real employer entry requirements, typically GCSEs or A levels rather than a completed degree
Pay	£20,000 to £45,000. Source: Network Engineer apprentice to newly-qualified Network Engineer, Glassdoor/Payscale UK.

Standard	Reference	Level	Typical length	Checked
Network Engineer	ST0127	Level 4	24 months	10 August 2026

02 Telecommunications (5G)

What it is	The world of wireless, mobile, and next-gen cellular connectivity.
Example roles	Telecoms Engineer, Radio Planning Engineer, Field Engineer, Core Network Engineer
Skills used	LTE/5G NR; RF Engineering; Wireless Planning; MIMO; SDN

Who it suits	Innovators interested in mobile tech and the future of wireless comms.
Example of the work	Deploying a private 5G network for an automated shipping port.
What shows someone can do it	Ability to plan and deploy wireless network coverage that meets real-world capacity demands.
Sectors that hire	Telecommunications, Transport & Logistics, Manufacturing & Engineering, Media & Entertainment, Government & Public Sector
Pay	£32,500 to £87,000+. Source: IT Jobs Watch: Field Telecoms Engineer median to RF Engineer/Core Network Engineer range; ONS ASHE median £39,652, telecoms network installers.

03 Digital Infrastructure (Fibre)

What it is	The physical world of fibre-optic cables that link cities and continents.
Example roles	Fibre Technician, Planning Officer, Submarine Cable Engineer
Skills used	Splicing; OTDR Testing; Civil Works; Fibre Planning; GIS
Who it suits	Practical problem solvers who enjoy hands-on work in the field.
Example of the work	Laying a new 500km submarine cable between two financial hubs.
What shows someone can do it	Ability to plan, splice and test physical fibre links that carry a network's traffic.
Sectors that hire	Telecommunications, Construction & Civil Engineering, Government & Public Sector, Energy & Utilities, Financial Services
Pay	£28,500 to £91,500+. Source: IT Jobs Watch: Fibre Engineer range; Submarine Cable Engineer, ERI Economic Research Institute, no IT Jobs Watch page for this niche title.

Apprenticeship route: Telecoms & Fibre Field Engineering

What it is	Install, splice, test and maintain the fibre-optic and cellular infrastructure that carries the UK's broadband and mobile traffic, from splicing cabinets on a street corner to commissioning a 5G mast.
Example roles	Network Cable Installer, Telecoms Field Operative, Fibre Jointer, Cellular Network Field Engineer
What suits this route	Comfortable working outdoors, at height, or in confined spaces (ducts, cabinets, masts); Methodical fault-finding under time pressure; Holds or can obtain relevant site safety certification (e.g. CSCS)
Pay	£23,000 to £60,000. Source: ITP range for Cellular Network Field Engineer; ONS ASHE median £39,652 for the wider occupation.

Standard	Reference	Level	Typical length	Checked
Rail Engineering Technician (Signalling & Telecoms)	ST0318	Level 3	Not given	30 July 2026
Network Cable Installer	ST0485	Level 3	14 months	29 July 2026
Telecoms Field Operative	ST0832	Level 2	15 months	29 July 2026
Cellular Network Field Engineer (CNFE)	ST1299	Level 4	36 months	29 July 2026
Wireless Communications Rigger	ST0616	Level 2	18 months	31 July 2026

04 IoT & Wireless Tech

What it is	Connecting billions of smart devices, from meters to satellites.
Example roles	IoT Solutions Architect, Wireless Specialist, Satellite Comm Engineer
Skills used	LoRaWAN; Zigbee; Bluetooth LE; LPWAN; MQTT
Who it suits	Developers interested in the intersection of hardware and networking.
Example of the work	Connecting 100,000 smart water meters across a rural county.
What shows someone can do it	Ability to connect and manage large fleets of low-power, low-bandwidth devices reliably.
Sectors that hire	Manufacturing & Engineering, Energy & Utilities, Agriculture, Transport & Logistics, Healthcare & Life Sciences
Pay	£37,000 to £80,000+. Source: IT Jobs Watch: Communications Engineer median used as proxy for Satellite Comm Engineer, no dedicated listing; IoT Architect and Wireless Network Engineer range.

Apprenticeship route: Smart Buildings

What it is	Buildings are becoming connected, automated and energy-managed. Install and commission the fire, security and building energy management systems that keep them safe and efficient: hands-on work in plant rooms and on site, not behind a desk.
Example roles	Fire & Security Systems Technician, BEMS Controls Engineer, Building Automation Installer
What suits this route	Comfortable working in plant rooms, roof spaces and on scaffolding/access equipment; Methodical, safety-first approach to electrical and fire-system work; Interested in how a building's systems fit together, not just one device
Pay	£37,991+. Source: median, Security System Installers and Repairers.

Standard	Reference	Level	Typical length	Checked
Fire Emergency and Security Systems Technician	ST0189	Level 3	36 months	30 July 2026
BEMS (Building Energy Management Systems) Controls Engineer	ST0629	Level 4	36 months	30 July 2026
Lift and Escalator Engineering	ST0252	Level 3	Not given	31 July 2026

05 Software Defined (SDN)

What it is	The modern way of managing networks via code rather than physical cables.
Example roles	NetDevOps Engineer, SDN Architect, Cloud Networking
Skills used	Python/Go; SD-WAN; API Design; Linux; NetDevOps
Who it suits	Coders who want to build the 'intelligence' into the network.
Example of the work	Automating a global office network to re-route traffic during outages.
What shows someone can do it	Ability to manage and reconfigure a network's behaviour through code rather than physical changes.
Sectors that hire	Telecommunications, Financial Services, Technology & Software, Government & Public Sector, Retail & E-commerce
Pay	£52,500 to £85,000+. Source: IT Jobs Watch: Software-Defined Networking keyword median; Cloud Network Engineer and Senior Network Architect range.

06 Emerging Tech

What it is	Pioneering the next wave, from Quantum Comms to 6G.
Example roles	Quantum Comms Engineer, 6G Researcher, Mesh Network Architect
Skills used	Quantum Crypto; 6G Research; HAP (High Altitude); Mesh Nets
Who it suits	Researchers who want to build what doesn't exist yet.
Example of the work	Testing the first quantum-secured video call in the UK.
What shows someone can do it	Ability to prototype and evaluate next-generation communications technology ahead of standardisation.
Sectors that hire	Telecommunications, Aerospace & Defence, Technology & Software, Critical National Infrastructure, Government & Public Sector
Pay	£60,000 to £110,000+. Source: no IT Jobs Watch page exists for these niche/speculative titles; proxied via Research Engineer and Research Scientist medians, IT Jobs Watch; UK quantum professionals reported £70,000–£110,000, Quantum Jobs List industry survey.

07 Network Security & Access Control

What it is	Designing firewalls, VPNs, and zero-trust access controls that stop threats moving across a network.
Example roles	Network Security Engineer, Firewall Administrator, Zero Trust Architect, VPN Specialist
Skills used	Firewalls and VPNs; Zero Trust Architecture; Network Segmentation; Access Control
Who it suits	Defensive thinkers who enjoy building barriers attackers can't get past.
Example of the work	Stops attackers moving laterally once they've breached the perimeter.
What shows someone can do it	Ability to design access controls that stop an attacker moving laterally once inside the perimeter.
Sectors that hire	Financial Services, Government & Public Sector, Critical National Infrastructure, Healthcare & Life Sciences, Telecommunications
Pay	£46,000 to £102,000+. Source: IT Jobs Watch: Network Security Engineer and Firewall Engineer medians; Security Architect used as proxy for Zero Trust Architect.

08 Enterprise & Unified Communications

What it is	Designing the voice, video, and collaboration infrastructure that keeps distributed teams and customers connected.
Example roles	UC Engineer, VoIP Specialist, Collaboration Platform Lead, Contact Centre Engineer
Skills used	VoIP/SIP; Video Conferencing Platforms; Contact Centre Tech; QoS Management
Who it suits	Practical engineers who enjoy making complex comms systems feel simple to use.
Example of the work	Keeps large organisations talking, meeting, and serving customers without disruption.
What shows someone can do it	Ability to keep voice, video and collaboration tools running reliably for a whole organisation.
Sectors that hire	Telecommunications, Financial Services, Government & Public Sector, Retail & E-commerce, Professional & Consulting Services
Pay	£32,750 to £70,000+. Source: IT Jobs Watch: VoIP Engineer England range; Unified Communications Engineer median, no dedicated listing for Collaboration Platform Lead/Contact Centre Engineer.

Routes into the field

Route	What it is	Cost and pay
Apprenticeships	Earn while they train through structured learning that combines workplace experience with recognised development.	their employer (or the government, via the apprenticeship levy and co-investment) pays for all their training and assessment costs directly to the provider, they are never billed for tuition, and they don't take out a loan for it. Apprentices are paid at least the apprentice minimum wage of £8.00 an hour.
Degrees	Build strong technical foundations through longer-form study with opportunities to specialise and progress academically.	Covers their tuition fees in full, paid directly to their university or college, not means-tested, so every eligible student can borrow the same amount regardless of household income. Repayments under Plan 5 are 9% of income above £25,000 a year, and the loan is written off after 40 years.
Bootcamps & Intensive Training	We don't currently have any Tech Industry Gold accredited bootcamp providers - accelerate their move into tech via the government's own Skills Bootcamps programme instead: free, flexible courses up to 16 weeks, built around employability.	Free to the learner. Up to 16 weeks. Available across England.
Flexible Learning (Apprenticeship Units)	Build relevant tech skills through shorter, flexible learning without committing to a full programme from the start.	Shorter, flexible training. Focused, in-demand skills. Aligned to employer needs. Can build toward larger qualifications.

Apprenticeships: Explore Apprenticeships

Degrees: Find Degrees

Bootcamps & Intensive Training: Find a Skills Bootcamp (gov.uk)

Flexible Learning (Apprenticeship Units): Explore Flexible Learning

Who pays for an apprenticeship	Employers with an annual pay bill over £3 million pay into the apprenticeship levy, topped up by government, to fund training. Smaller employers get most of the cost covered through government co-investment, and from the 2026/27 funding year, training for under-25s at these smaller, non-levy-paying employers is fully funded.
Apprentice minimum wage	£8.00 an hour: the National Minimum Wage apprentice rate, which applies if they're under 19, or 19+ and in the first year of their apprenticeship (from 1 April 2026). Once they're 19+ and past their first year, they move to the normal age-based National Minimum Wage (up to £12.71/hour for ages 21+ from April 2026), many employers pay well above the legal minimum.

Funding sources: gov.uk: Apprenticeship funding rules and assessment plan guidance, 2026 to 2027 (checked 20 July 2026); gov.uk: Student finance for undergraduates, gov.uk: Repaying your student loan; gov.uk: How interest is calculated, Plan 5 (checked 20 July 2026). Rates change each year, so confirm current figures on gov.uk before quoting them.

Apprenticeship standards in this career family

Reference	Standard	Level	Typical length
ST0616	Wireless Communications Rigger	Level 2	18 months
ST0832	Telecoms Field Operative	Level 2	15 months
ST0189	Fire Emergency and Security Systems Technician	Level 3	36 months
ST0252	Lift and Escalator Engineering	Level 3	Not given
ST0318	Rail Engineering Technician (Signalling & Telecoms)	Level 3	Not given
ST0485	Network Cable Installer	Level 3	14 months
ST0127	Network Engineer	Level 4	24 months
ST0629	BEMS (Building Energy Management Systems) Controls Engineer	Level 4	36 months
ST1299	Cellular Network Field Engineer (CNFE)	Level 4	36 months

ST0616 Wireless Communications Rigger The field-based rigging role behind mast infrastructure work: climbing and working at height to install and maintain the physical antennas, cabling and hardware that make up the UK's cellular network sites.

ST0832 Telecoms Field Operative Works on the copper/fibre National Telecom Access Network. Typical job titles include Fibre Jointer and External Network Cabler.

ST0189 Fire Emergency and Security Systems Technician Designs, installs, commissions and maintains electronic fire, security and emergency systems. Four specialisation pathways: Fire, Security, Fire & Emergency Lighting, Fire & Security.

ST0252 Lift and Escalator Engineering Installs, maintains and modernises lifts and escalators: wiring, PLC-based control systems and safety/braking logic in shafts and motor rooms. A separate, related standard (ST0251, Stairlift/Platform Lift/Service Lift Electromechanic) covers smaller-scale accessibility lifts specifically.

ST0318 Rail Engineering Technician (Signalling & Telecoms) Covers the same field cabling and signal equipment skills as telecoms field work, applied to trackside signalling and rail telecoms rather than broadband and mobile networks. Signalling and Telecoms are two of its specialisms.

ST0485 Network Cable Installer Installs, terminates, tests and certifies fibre and copper network cable infrastructure. Typical job titles include Network Cable Installer, Structured Cabling Installer and Telecoms Cable Installer.

ST0127 Network Engineer The core UK apprenticeship standard for network engineering: install networks, maintain them, and offer technical support to users. Progresses toward the Digital and Technology Solutions specialist integrated degree.

ST0629 BEMS (Building Energy Management Systems) Controls Engineer Designs, installs, commissions and maintains the building energy management systems that control HVAC and electrical systems for energy efficiency.

ST1299 Cellular Network Field Engineer (CNFE) Installs, maintains and optimises 4G/5G electrical, RF and fibre systems on mast infrastructure. The progression route beyond initial cable installation.

Pay and hiring

Level	Median pay	25th to 75th percentile	Salaries in sample	Source	Period
Junior	£30,000	Not given	7	IT Jobs Watch: Junior Network Engineer (UK)	6 months to 11 Jul 2026
Mid-level	£60,000	£47,500 to £70,000	783	IT Jobs Watch: Network Engineer (UK)	6 months to 11 Jul 2026
Senior	£65,576	£58,750 to £75,000	247	IT Jobs Watch: Senior Network Engineer (UK)	6 months to 11 Jul 2026

A small sample makes a figure indicative only. The hiring note below says where that applies.

Hiring	UK networking job postings grew 22.6% year-on-year (Jan-Apr 2026), demand is shifting away from lower-level, purely manual configuration roles (increasingly automated) toward niche specialists in cloud networking and software-defined networking. The junior-level figures above are based on a very small sample (7 salaries), so treat that specific band as indicative only.
Remote working	Hybrid working has genuinely expanded access to network engineering roles, with job postings increasingly specifying work mode explicitly, though senior roles remain more concentrated at larger organisations. No single precise UK-wide remote/hybrid percentage was found specifically for this role during research (unlike software, data or cyber, where a clear Adzuna-sourced figure exists).
Fastest growing skill	Cloud networking knowledge (Azure networking specifically, 37.46% of postings) is growing fastest, reflecting the extension of traditional on-prem networks into hybrid cloud architectures.

Skills and certifications

Skills employers ask for

Skill	Importance	Demand	Time to learn	Route
Cisco Networking Fundamentals	Critical	Very High, in 52% of postings	6-8 weeks	All routes
TCP/IP (Transmission Control Protocol/Internet Protocol) & Network Fundamentals	Critical	Very High	3-4 weeks	All routes
Cloud Networking (Azure)	High	High, in 37% of postings	3-4 weeks	All routes
Network Monitoring & Troubleshooting	High	High	2-3 weeks	All routes
Splice and Test Fibre Optic Cabling	Critical	Very High	On-the-job over the first 6-12 months of an apprenticeship	Apprenticeship
Install and Commission Fire, Security & BEMS (Building Energy Management System) Controls	Critical	High	On-the-job over the first 12-18 months of an apprenticeship	Apprenticeship

Cisco Networking Fundamentals: Networking Basics Cisco Networking Academy

Cisco Networking Fundamentals: CCNA study videos Cisco Skills for All

TCP/IP (Transmission Control Protocol/Internet Protocol) & Network Fundamentals: Networking Basics Cisco Networking Academy

Cloud Networking (Azure): Introduction to Azure network foundation services Microsoft Learn

Network Monitoring & Troubleshooting: Wireshark documentation Wireshark

Network Monitoring & Troubleshooting: LibreNMS documentation LibreNMS

Splice and Test Fibre Optic Cabling: Fiber U, Lesson Plan 7: Termination and Splicing The Fiber Optic Association (FOA)

Splice and Test Fibre Optic Cabling: Fiber U, Lesson Plan 8: Fiber Optic Testing The Fiber Optic Association (FOA)

Cisco Networking Fundamentals: Share of UK Network Engineer job postings mentioning Cisco. TCP/IP (Transmission Control Protocol/Internet Protocol) & Network Fundamentals: Universally cited as foundational in UK network-engineering skills guidance; not separately broken out as its own keyword percentage since it underlies every vendor-specific skill above. Cloud Networking (Azure): Share of UK Network Engineer job postings mentioning Azure. Network Monitoring & Troubleshooting: Consistently cited across UK network engineer role descriptions as a day-to-day expectation, though not broken out as a standalone keyword percentage. Splice and Test Fibre Optic Cabling: Core skill listed on the SSC's live occupation page for 'Telecoms and related network installers and repairers' (skillsclassification.org) and the named typical work of the Network Cable Installer (ST0485) and Telecoms Field Operative (ST0832) apprenticeship standards. Install and Commission Fire, Security & BEMS (Building Energy Management System) Controls: Core skill mapped on the SSC's live occupation page for 'Security system installers and repairers' (skillsclassification.org), and the named typical work of the Fire Emergency and Security Systems Technician (ST0189) and BEMS Controls Engineer (ST0629) apprenticeship standards.

Certifications

Certification	Provider	Cost	Time	Level	Recognised	Best stage
CompTIA Network+	CompTIA	Approx. $358-400 / £280-320 for a single exam voucher (correct at time of writing, check comptia.org for current pricing)	6-8 weeks part-time	Beginner	High	Before you apply
Cisco Certified Network Associate (CCNA)	Cisco	$300 / approx. £240 (exam fee, correct at time of writing, check cisco.com for current pricing)	3-4 months part-time	Intermediate	High	Early career (0-2 years)

For teachers and lecturers

Area of work	Who it suits	Example roles	Apprenticeship standards
Network Engineering	Analytical minds who enjoy the 'plumbing' and flow of digital information.	Network Engineer, NOC Analyst, Network Architect, LAN/WAN Specialist	ST0127 Level 4
Telecommunications (5G)	Innovators interested in mobile tech and the future of wireless comms.	Telecoms Engineer, Radio Planning Engineer, Field Engineer, Core Network Engineer	None listed in the Matrix yet
Digital Infrastructure (Fibre)	Practical problem solvers who enjoy hands-on work in the field.	Fibre Technician, Planning Officer, Submarine Cable Engineer	ST0318 Level 3, ST0485 Level 3, ST0832 Level 2, ST1299 Level 4, ST0616 Level 2
IoT & Wireless Tech	Developers interested in the intersection of hardware and networking.	IoT Solutions Architect, Wireless Specialist, Satellite Comm Engineer	ST0189 Level 3, ST0629 Level 4, ST0252 Level 3
Software Defined (SDN)	Coders who want to build the 'intelligence' into the network.	NetDevOps Engineer, SDN Architect, Cloud Networking	None listed in the Matrix yet
Emerging Tech	Researchers who want to build what doesn't exist yet.	Quantum Comms Engineer, 6G Researcher, Mesh Network Architect	None listed in the Matrix yet
Network Security & Access Control	Defensive thinkers who enjoy building barriers attackers can't get past.	Network Security Engineer, Firewall Administrator, Zero Trust Architect, VPN Specialist	None listed in the Matrix yet
Enterprise & Unified Communications	Practical engineers who enjoy making complex comms systems feel simple to use.	UC Engineer, VoIP Specialist, Collaboration Platform Lead, Contact Centre Engineer	None listed in the Matrix yet

The Who it suits column comes from the Career Matrix. It is a starting point for a conversation, not an assessment.

Notes on your students

Activities for lessons and clubs

Activity	What students do	Level	Time	Skills shown
Home Lab Network Build	Design and build a small network with multiple VLANs (Virtual Local Area Networks, a way of splitting one physical network into several separate, logically-isolated ones) using either real second-hand hardware (an old router/switch) or a free simulator like Cisco Packet Tracer/GNS3, with a documented network diagram and IP addressing scheme.	Beginner	10-15 hours	Cisco Networking Fundamentals, TCP/IP & Network Fundamentals
Site-to-Site VPN (Virtual Private Network) Setup	Configure a working VPN, an encrypted connection between two networks, between two simulated sites (e.g. two Packet Tracer routers, or an on-prem VM and an Azure virtual network), documenting the encryption and routing configuration.	Intermediate	10-12 hours	Cloud Networking (Azure), TCP/IP & Network Fundamentals
Network Monitoring Dashboard	Set up a free network monitoring tool (LibreNMS or Zabbix) to track uptime, bandwidth and device health across your home lab, and configure at least one alert rule for a realistic failure scenario.	Intermediate	8-10 hours	Network Monitoring & Troubleshooting
Fibre Splice Enclosure Build and Test Certificate	Terminate a small fibre distribution unit or splice closure, fusion or mechanically splice every core, then test each one with an OTDR (Optical Time Domain Reflectometer, a device that sends light pulses down a fibre cable to measure signal loss and pinpoint faults) and light source or power meter, and produce a completed test certificate showing measured loss against the design loss budget.	Beginner	6-10 hours	Splice and Test Fibre Optic Cabling
Fault Find and Repair on a Fibre Link	Starting from a link with a real or introduced fault, such as a bad splice or excess bend loss, use an OTDR (Optical Time Domain Reflectometer) trace to locate the fault, then re-splice or re-terminate and re-test until the link passes.	Intermediate	4-8 hours	Splice and Test Fibre Optic Cabling
Fire, Security & BEMS (Building Energy Management System) Commissioning Record	Under supervision, install and commission a fire alarm, access control or BEMS control point, following the manufacturer's commissioning procedure, then produce a completed commissioning record showing test results signed off against the design specification.	Beginner	6-10 hours	Install and Commission Fire, Security & BEMS Controls

Activity	What students do	Level	Time	Skills shown
Building System Fault Diagnosis Log	Keep a log of real or simulated faults diagnosed and resolved on a fire, security or BEMS (Building Energy Management System) installation, such as a faulty detector, a miscommissioned zone or an out-of-range HVAC (Heating, Ventilation and Air Conditioning) control point, recording the diagnostic steps taken and the fix, with mentor sign-off on each entry.	Intermediate	4-8 hours	Install and Commission Fire, Security & BEMS Controls

These are the portfolio projects used in the TechSkills Career Planner. Each is meant to produce work a learner can show an employer.

Where to find out more

National Careers Service Careers advice, job profiles, information and resources. (Department for Education. Checked 1 November 2026.)

Find an apprenticeship Register a profile, search vacancies and apply for an apprenticeship. Applicants must be 16 or over. (GOV.UK. Checked 1 November 2026.)

Skills Bootcamps For people updating their skills to progress in their current job or move into a different role. (JobHelp, GOV.UK. Checked 1 November 2026.)

Skills England: apprenticeship search Skills England's apprenticeship search. (Skills England. Checked 1 November 2026.)

General notes

Sources and checking

The figures in this guide were checked on dates from 11 July 2026 to 1 November 2026. Each source below shows its own date.

Skills England: ST0616 Wireless Communications Rigger Checked 31 July 2026

Skills England: ST0832 Telecoms Field Operative Checked 29 July 2026

Skills England: ST0189 Fire Emergency and Security Systems Technician Checked 30 July 2026

Skills England: ST0252 Lift and Escalator Engineering Checked 31 July 2026

Skills England: ST0318 Rail Engineering Technician (Signalling & Telecoms) Checked 30 July 2026

Skills England: ST0485 Network Cable Installer Checked 29 July 2026

Skills England: ST0127 Network Engineer Checked 10 August 2026

Skills England: ST0629 BEMS (Building Energy Management Systems) Controls Engineer Checked 30 July 2026

Skills England: ST1299 Cellular Network Field Engineer (CNFE) Checked 29 July 2026

National Careers Service, Department for Education Checked 1 November 2026

Find an apprenticeship, GOV.UK Checked 1 November 2026

Skills Bootcamps, JobHelp, GOV.UK Checked 1 November 2026

Skills England: apprenticeship search, Skills England Checked 1 November 2026

- gov.uk: Apprenticeship funding rules and assessment plan guidance, 2026 to 2027 (checked 20 July 2026)
- gov.uk: National Minimum Wage and National Living Wage rates (checked 20 July 2026)
- gov.uk: Student finance for undergraduates (checked 20 July 2026)
- gov.uk: Repaying your student loan; gov.uk: How interest is calculated, Plan 5 (checked 20 July 2026)
- ONS ASHE Table 14, 2024 (revised) (checked 11 July 2026)
- IT Jobs Watch: Network Engineer / Junior Network Engineer / Senior Network Engineer (UK) (checked 11 July 2026)
- IT Computer Networking Job Market Report (UK), Learning People, Jun 2026 (checked 11 July 2026)
- TechTarget: Advanced skills drive networking job market in 2026 (checked 11 July 2026)
- IT Jobs Watch: Network Engineer skills (UK), 6 months to 11 Jul 2026 (checked 11 July 2026)
- Cisco Networking Academy course structure (checked 11 July 2026)
- CompTIA Network+ exam objectives (checked 11 July 2026)
- UK Standard Skills Classification (skillsclassification.org): Telecoms and related network installers and repairers (checked 29 July 2026)
- IfATE/Skills England: Network Cable Installer (ST0485), Telecoms Field Operative (ST0832) (checked 29 July 2026)
- The Fiber Optic Association (FOA): Fiber U lesson plans 7 and 8 (checked 29 July 2026)
- UK Standard Skills Classification (skillsclassification.org): Security system installers and repairers (checked 31 July 2026)
- IfATE/Skills England: Fire Emergency and Security Systems Technician (ST0189), BEMS Controls Engineer (ST0629) (checked 31 July 2026)
- Fire Industry Association (FIA): Foundation Course (checked 31 July 2026)
- BESA: Labour Market Intelligence Report 2026 (checked 31 July 2026)
- StationX: CCNA vs Network+ 2026 (checked 11 July 2026)
- CompTIA certification documentation (checked 11 July 2026)
- IT Jobs Watch: Network Engineer skills (UK), 6 months to 11 Jul 2026 (52.09% Cisco, 41.27% Cisco Certification, 32.09% CCNA) (checked 11 July 2026)