Unit 201: Employment and employability in the building services engineering sector

# Delivery guide

Unit information

This unit provides the learner with knowledge of some of the wider aspects within the building services engineering sector.

Learners may be introduced to this unit by asking themselves questions such as:

* What trade bodies and organisations do I need to be aware of in my chosen trade?
* What is the competence card scheme used in my trade, and what type of cards are available?
* What do I need to consider about being self-employed?

Learning outcomes

1. Know the trade bodies and organisations within the building services engineering sector
2. Know the main principles of self-employment in the building services engineering sector
3. Know the importance of inter- and intra-personal skills
4. Know how to solve problems within their scope of responsibility

Suggested resources

Websites

* [ECS Card Types | Electrotechnical Certification Scheme](https://www.ecscard.org.uk/card-types)
* [Gas Safe Register | Understand the Gas Safe ID Card](https://www.gassaferegister.co.uk/help-and-advice/understand-the-gas-safe-id-card)
* [HSE | Information about health and safety at work](https://www.hse.gov.uk/)
* [The BESA | Building Engineering Services Association](https://www.thebesa.com/)
* [Unite the union | Unite Construction, Allied Trades and Technicians](https://www.unitetheunion.org/what-we-do/unite-in-your-sector/unite-construction-allied-trades-and-technicians/)
* [GOV.UK | HM Revenue & Customs: About us](https://www.gov.uk/government/organisations/hm-revenue-customs/about)
* [GOV.UK | Working for yourself](https://www.gov.uk/working-for-yourself)
* [Telegraph | Recession casualties: Britain's construction industry counts cost of boom and bust](https://www.telegraph.co.uk/finance/recession/5568068/Recession-casualties-of-Britains-construction-industry-count-cost-of-boom-and-bust.html)
* [High Speed Training | What is EQ? A Guide to Emotional Intelligence in the Workplace](https://www.highspeedtraining.co.uk/hub/emotional-intelligence-workplace/#:~:text=%20Benefits%20of%20Emotional%20Intelligence%20in%20the%20Workplace,positive%20about%20their%20work%20and%20their...%20More%20)
* [Engage in Learning | What is Meant by the Term Equality and Diversity?](https://engageinlearning.com/faq/compliance/equality-and-diversity/what-is-meant-by-the-term-equality-and-diversity/#:~:text=Used%20together%20%E2%80%99Equality%20and%20Diversity%E2%80%99%20is%20a%20term,free%20from%20prejudice%20and%20bias.%20Equality%20Act%202010)
* [Echos | 7 Rules For Effective Lateral Thinking And Brainstorming](https://schoolofdesignthinking.echos.cc/blog/2020/10/7-rules-for-effective-lateral-thinking-and-brainstorming/)
* [Prospects | Jobs and work experience | Self-employment](https://www.prospects.ac.uk/jobs-and-work-experience/self-employment)
* [JIB | JIB-PMES](https://www.jib-pmes.org/)
* [Engineering Council | Home](https://www.engc.org.uk/)

Textbooks

* David Kolb, D. (2015) *Experiential Learning: Experience as the Source of Learning and Development*. 2nd edition. London: Pearson FT Press. ISBN 978-0-13389-240-6
* Honey, P., Mumford, A. (2012) *Learning Styles Questionnaire (LSQ) PHP 80 item – 1036.* London: Pearson Education Limited.

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| **Learning outcomes** | **Criteria** | **Delivery guidance** |
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| 1. Know the trade relevant bodies and organisations within the building services engineering sector | * 1. The trade bodies and organisations relevant to the trade | * Learners to know the trade bodies and organisations relevant to their trade and their roles. Cover either trade, depending on the learner’s chosen pathway: * Electrical: Electrical Contractors’ Association (ECA), Joint Industry Board (JIB), Certsure, National Inspection Council for Electrical Installation Contracting (NICEIC), ELECSA, National Association of Professional Inspectors and Testers (NAPIT), Institution of Engineering and Technology (IET) and Chartered Institution of Building Services Engineers (CIBSE) * Plumbing and Heating: Association of Plumbing and Heating Contractors (APHC), Heating Equipment Testing and Approvals Scheme (HETAS), Oil Firing Technical Association (OFTEC), Gas Safe Register, Institution of Gas Engineers and Managers (IGEM), Chartered Institute of Plumbing and Heating Engineering (CIPHE) and CIBSE. * Learners to understand the role that the Health and Safety Executive (HSE) has in the Building Services Industry. |
| * 1. The role of the relevant trade bodies and organisations | * Learners to undertake theory training on the training bodies listed in 1.1 to have a better understanding of the roles and services these organisations offer. * Learners to research and discuss the pros and cons of being engaged with union representation such as Unite Construction, Allied Trades and Technicians (UNITE) and Building Engineering Services Association (BESA). |
| * 1. The competence card schemes within the building services engineering sector and the types of cards available for the trade | * Learners to know the card/recognition schemes for their BSE Trade. Cover either trade, depending on the learner’s chosen pathway: * Electrical: Electrotechnical Certification Scheme (ECS), and types of cards available * Plumbing and Heating: Joint Industry Board for Plumbing Engineering Services in England and Wales (JIB UK-PHMES CSCS), and Gas Safe/Gas Service Engineer Gold Registration Card and the types of cards available. * Learners to know the role of card issuers and registration requirements and the need for industry recognised qualifications. * Learners to research and undertake training in readiness for application for the card/recognition scheme to enable what type of cards are available and learners to know what they should apply for depending on their chosen pathway. |
| * 1. Professional registration as an Engineering Technician | * Learners to be introduced to professional bodies and to understand the benefits of engaging with these, such as higher earning potential, improved career prospects and employability, enhanced status leading to higher self-esteem, international recognition of competence and commitment, evidence of expertise, greater influence within own organisation and industry and recognition as a countersignatory. |
| 1. Know the main principles of self-employment in the building services engineering sector | * 1. The characteristics of self-employment | * Learners to understand benefits of self-employment and understand the difference between a sole trader, partnerships and a limited company. * Learners to know the definition of a sub-contractor and a main contractor. * Learners to engage in theory training based around successful self-employment, highlighting key areas such as self-motivation, opportunities for greater earning, flexibility of working, vetting and choosing positive clients. |
| * 1. The advantages and disadvantages of self-employment | * Learners to research registration with Her Majesty’s Revenue and Customs (HMRC) for self-employment. * Learners to understand how to keep records for bookkeeping for tax purposes. * Learners to research the advantages and disadvantages of self-employment. |
| * 1. The responsibilities of being self-employed | * Learners to be made aware of potential negatives of self-employment, such as cash flow problems, lack of pension and employment benefits, continued workflow, insurance costs, delayed payments, over commitment on contracts, client relationship breakdowns. * Learners to be made aware of potential positives of self-employment, such as being in control of one’s own projects and pipeline, higher earning potential, greater career satisfaction, positive customer testimonials, flexible working. |
| * 1. Patterns in employment and rises and falls in demand | * Learners to research trends in Building Services Engineering (BSE) for recessions and times of rises in demand. * Learners to understand the implications of recession such as loss of work, loss of employment, economic strife, lack of training and Continuing Professional Development (CPD) opportunities. * Learners to understand the implications of rises in demand such as greater earnings, training and CPD opportunities, lack of workforce due to amount of work. * Learners to research patterns in industry and highlight trigger points of recession and rises in demand. * Learners to understand about market forces in recession and during times of rising demand and the impact on earning potential. |
| * 1. The duty of care in ensuring products and work are safe for end users | * Learners to understand safe systems of work in Building Services Engineering and have a general overview of working safely with knowledge gained from HSE policy and good practice. * Learners to be aware of Public Liability insurance requirements and what is covered by this. * Learners to know the actions to take for reporting within an organisation to ensure that all work complies with current legislation. * Learners to know that they will be responsible for ensuring the work complies with relevant regulations such as Construction (Design and Management) Regulations (CDM), Wiring Regulations, etc. |
| 1. Know the importance of inter- and intra-personal skills | * 1. The importance of effective and appropriate communication with others | * Learners to know through theory training all relevant types of communication within the industry. * Learners to understand the difference and effect that positive and negative communication can have in the workplace. |
| * 1. The importance of emotional intelligence in effective communication | * Learners to understand how to develop emotional intelligence when engaging in communication in the workplace, such as developing the following skills: organisation, communicate clearly and effectively, acceptance of feedback and constructive criticism. * Learners to have a knowledge of equality and diversity in the workplace and understand how to promote this: ensuring that everybody has an equal opportunity and that no one is treated differently or discriminated against because of their characteristics, taking into account the differences between people and groups of people and placing a positive value on those differences. * Learners to show emotional intelligence when using all forms of communication, including oral communication, written communication, email, letters, texting, social media, etc. * Learners to consider effective communication to take into account individual needs, such as disabilities, accents, dialects, language differences. |
| * 1. How to plan and manage one’s own time | * Learners to understand the importance of planning and managing time. * Learners to engage in practical activities of different forms of calendar and date sharing such as phone calendar, email calendar, etc. * Learners to be aware of setting up electronic groups to manage and share time such as WhatsApp, Microsoft Teams, etc. |
| * 1. How to set targets and success criteria | * Learners to engage in the practical activity of setting some SMART (Specific, Measurable, Achievable, Realistic and Time Bound) targets. * Learners to research and gain an understanding of success criteria and how projects are judged when this information is analysed. * Learners to research how to develop inter- and intra-personal skills to effect improved communication and problem-solving skills. |
| * 1. The importance of reflective practice | * Learners to engage in small activities to develop good reflective practice skills. * Learners to be aware of reflective practitioners such as Kolb and Honey and Mumford. |
| 1. Know how to solve problems within their scope of responsibility | * 1. Recognise problemsthat may occur within building services projects | * Learners to be able to identify and solve varied problems that can occur: technical, communication, availability of materials, equipment, health and safety. * Learners to engage in training activities on reporting and rectifying problems. |
| * 1. How to identify solutions to problems | * Learners to engage in training activities around problem solving strategies such as brainstorming, lateral thinking, root cause analysis. |
|  | * 1. How to test and evaluate solutions | * Learners to understand the scope of their responsibility for rectifying problems and to know when to escalate to senior management to enable correct decision making in Building Services Engineering (BSE) work. |