

Building Services Engineering

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newbury-college.ac.uk



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Welcome

Welcome to Newbury College, your first choice for technical, career-focussed training.

As you look to start the next stage of your education, we are here to support you. We understand the transition from school can be daunting and our highly trained staff will guide you through the application and enrolment process, to get you on the right track to the career you want.

#careersnotcourses



Why Newbury College?



PROGRESSION-FOCUSED

- Subjects based on your chosen career
- Career-focused objectives



SKILLS-BASED

- Fewer exams
- Different assessment methods
- Practical subjects

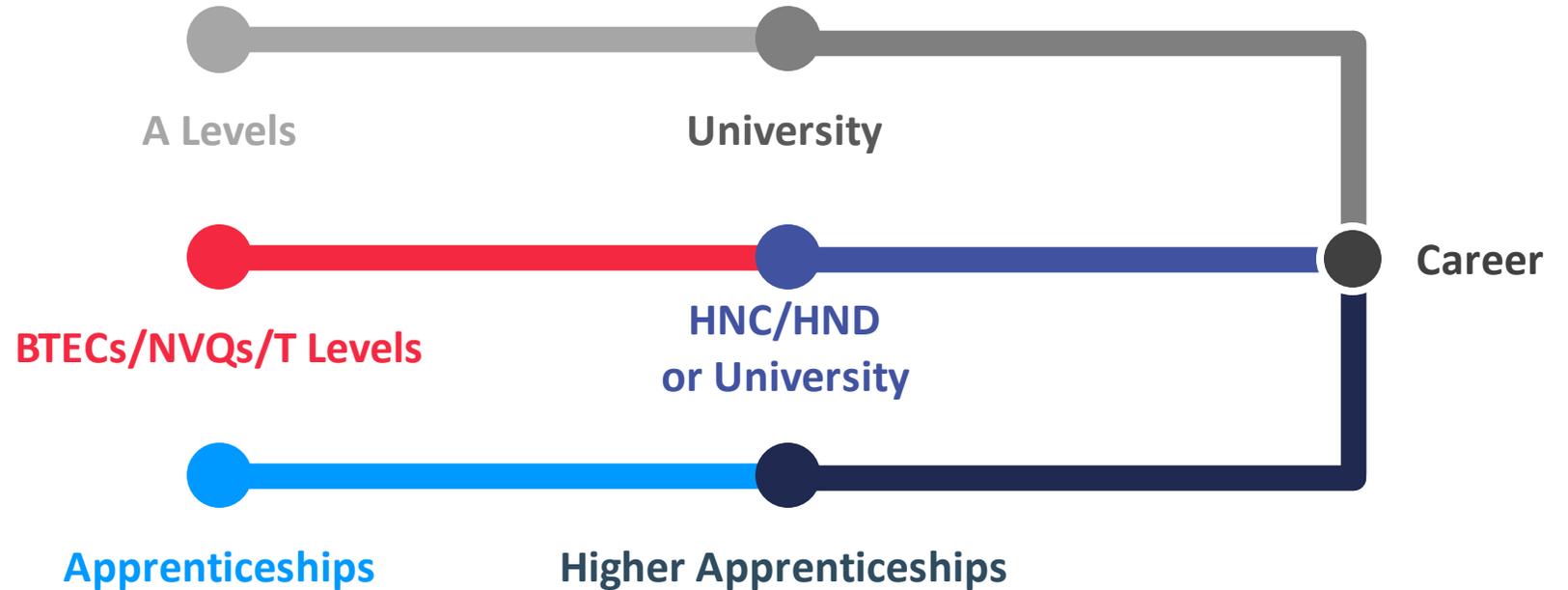


EMPLOYER-LED

- Industry placements with excellent employers
- Curriculum influenced by businesses

College Progression vs Sixth Form

- ✓ Faster route to your chosen career
- ✓ More options available
- ✓ Lower cost and debt-free Higher Education*



Your study programme

Full-time study programmes are assessed in a variety of ways, rather than just through the traditional essay and exam methods, this can be beneficial to students who prefer to be assessed differently and demonstrate their skills in other ways.

VOCATIONAL QUALIFICATIONS

Career-focused qualifications that meet needs of employers and job sectors like **BTECs**, **NVQs** and **T Levels**.

Your **Academic Tutorial** will help you to set targets and monitor your progress.

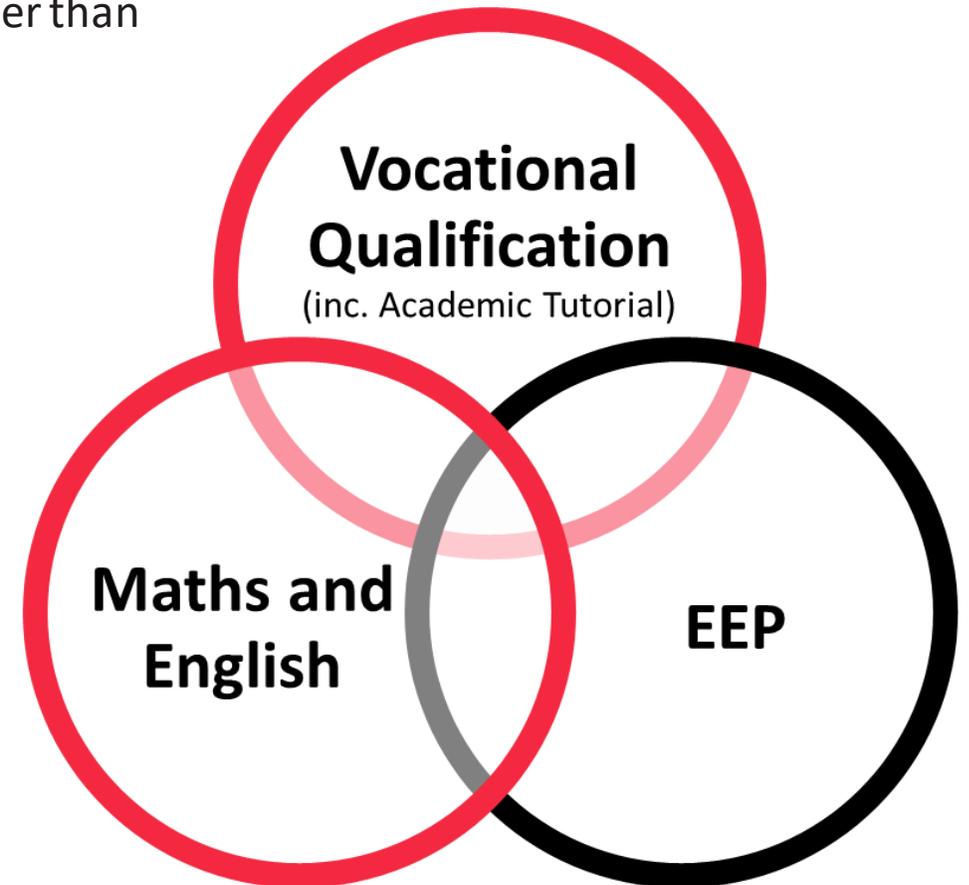
MATHS AND ENGLISH

You may need to resit your English and/or maths qualifications. We will support you in achieving your target grade.

EEP

EEP stands for **Employment**, **Enrichment** and **Pastoral**.

It provides you with a wide range of opportunities to enrich your learning and professional development beyond your main subject of interest. These could include sports, clubs and activities, trips and visits, work placement and work-related activity, tutorial sessions and guest speakers.



Placements and Partnerships

EMPLOYABILITY

A special WRA programme built into your course to learn the skills for the workplace including:

- CV and interview preparation
- vacancy and application writing
- trips and employer visits
- employer supported projects and activities
- apprenticeship and progression opportunities

WORK PLACEMENTS

From 2 to 9 weeks in length, these often lead to jobs and part-time work alongside your course.



Transition Programme

EAL Level 1 Diploma in Electrical Installation

This qualification allows the learner to acquire basic knowledge and craft skills of electrical installation. It does not require occupational evidence from the workplace so is suitable for learners who currently do not work within the electrical industry, and may wish to prepare for study at level 2. The qualification facilitates progression to further engineering and building services qualifications.

It will give the learner an opportunity to practice and be assessed in a secure environment on the basic installation of cables and wiring systems.

The qualification will not make the individual an electrician, but will allow progression to further study. You will cover knowledge in these subject areas:

- Health and Safety in Electrical Installation
- Understand fundamental environmental protection measures within building services engineering
- Installation Methods, Procedures and Requirements
- Electrical Installation Craft Skills
- Electrical Science, Principles and Technology
- Starting Work in Construction

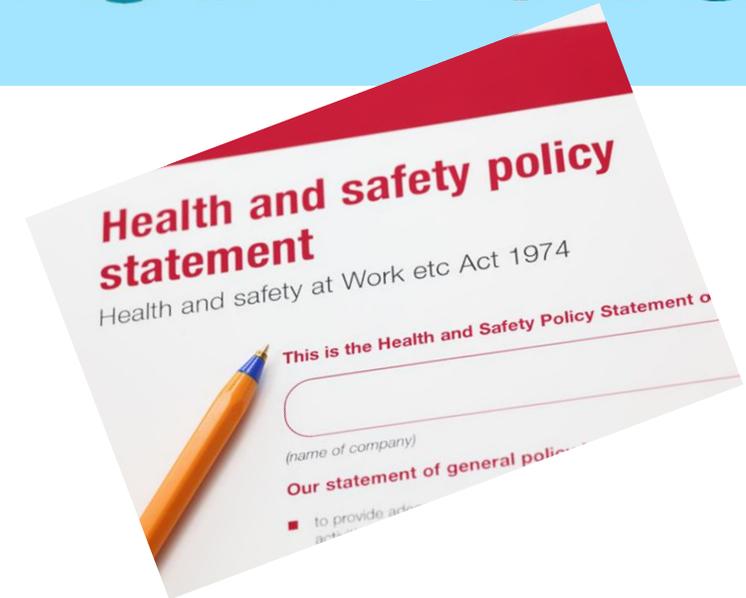


Health and Safety in Electrical Installation

This unit provides you with an opportunity to acquire knowledge and practical skills of health and safety relevant to electrical installation work.

It covers key health and safety documents together with procedures for working safely. It aims to promote the health, safety and welfare of the learner in electrical installation.

It provides a facility of learning and assessment of theory and practical skills for those not involved in electrical occupations.



Understand fundamental environmental protection measures within building services engineering.

This knowledge unit provides learning in a range of basic measures associated with protection of the environment.

Areas covered include the basic operating principles of solar thermal, wind turbine and solar photovoltaic.

The unit also provides learning in, reducing waste and conserving energy, material disposal, and conserving and reducing water wastage.



Installation Methods, Procedures and Requirements

This unit provides the learner an opportunity to acquire the basic knowledge of how electrical systems are installed together with the essential requirements of communication.

It aims to provide a facility of assessment (and learning) of basic installation methods procedures and requirements.



Electrical Installation Craft Skills

This unit provides the learner an opportunity to acquire the basic practical skills relevant to electrical installation work.

It covers the basic preparation, installation of cables and wiring systems together with the basic tests and checks that can be applied to completed work.

It aims to promote the health and safety of the learner carrying out these basic electrical craft skills.

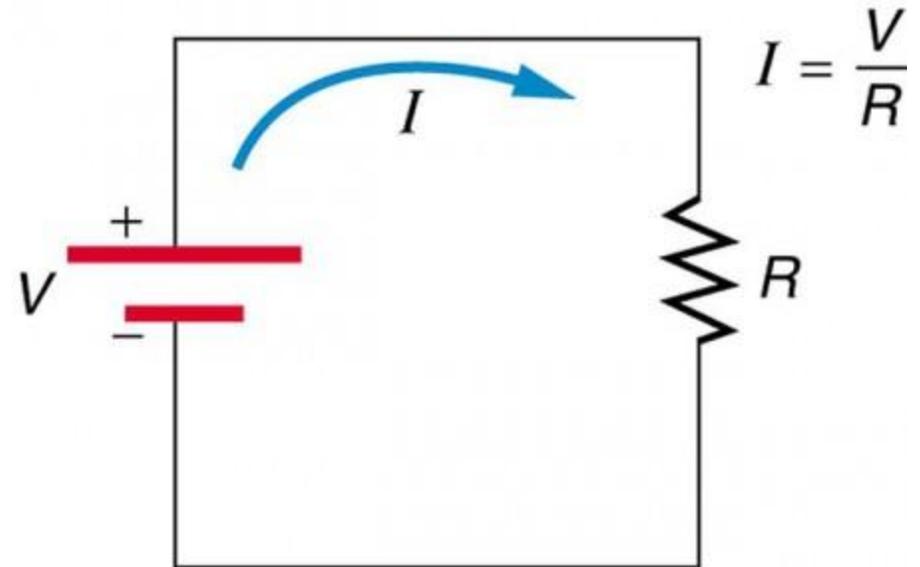
It also provides a facility of learning and assessment of basic electrical installation craft skills for those not involved in electrical occupations.



Electrical Science, Principles and Technology

This unit provides you with an opportunity to acquire the basic knowledge of science and principles relevant to electrical work.

It aims to provide a facility of assessment (and learning) of electrical science, principles and technology.



Starting Work in Construction

Starting Work in Construction will provide the learner with the basic knowledge and understanding of the careers available within construction.

The learner will find out about the different types of organisations offering careers within construction, how these choices can affect their lifestyles, how to make informed career choices, how to work responsibly with others and how to seek and respond to guidance when working within a team.



T Level Building Services Engineering (Electrical)

T Level Building Services Engineering (Electrical)

This qualification allows the learner to acquire advanced underpinning knowledge and related skills of electrical installation. It does not require occupational evidence from the workplace, so is suitable for learners who currently do not work within the electrical Industry . The qualification has been adapted from the Diploma within the apprenticeship framework; and although it will not automatically make the individual an electrician on successful completion it facilitates progression to an Industry recognised qualification.

You will cover knowledge in these subject areas:

- Understanding environmental legislation
- Electrical Installation Planning, Preparing and Designing
- Electrical Installation Craft Skills
- Inspection, Testing, and Commissioning
- Diagnosing and Correcting Electrical Faults
- Organising the Work Environment

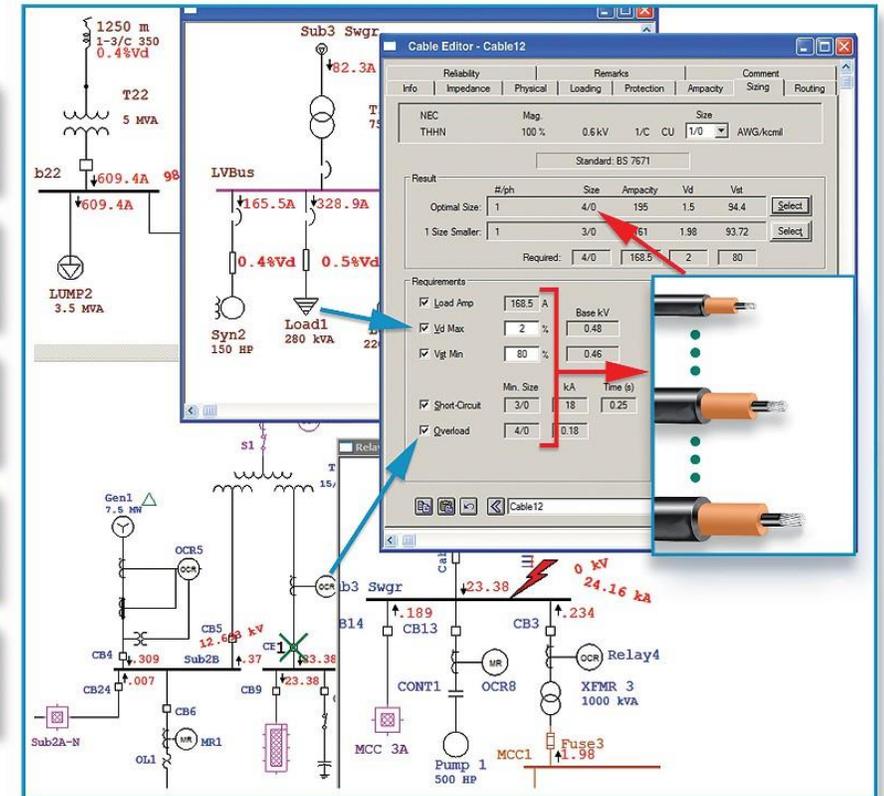


- QELTK3/002 –
- Understanding environmental legislation, working practices and the principles of environmental technology systems
- This knowledge unit enables learners to understand environmental legislation, working practices and the principles of environmental technology systems.
- Its content is the knowledge needed by a learner to underpin the application of skills and working practices appropriate to relevant legislation and systems

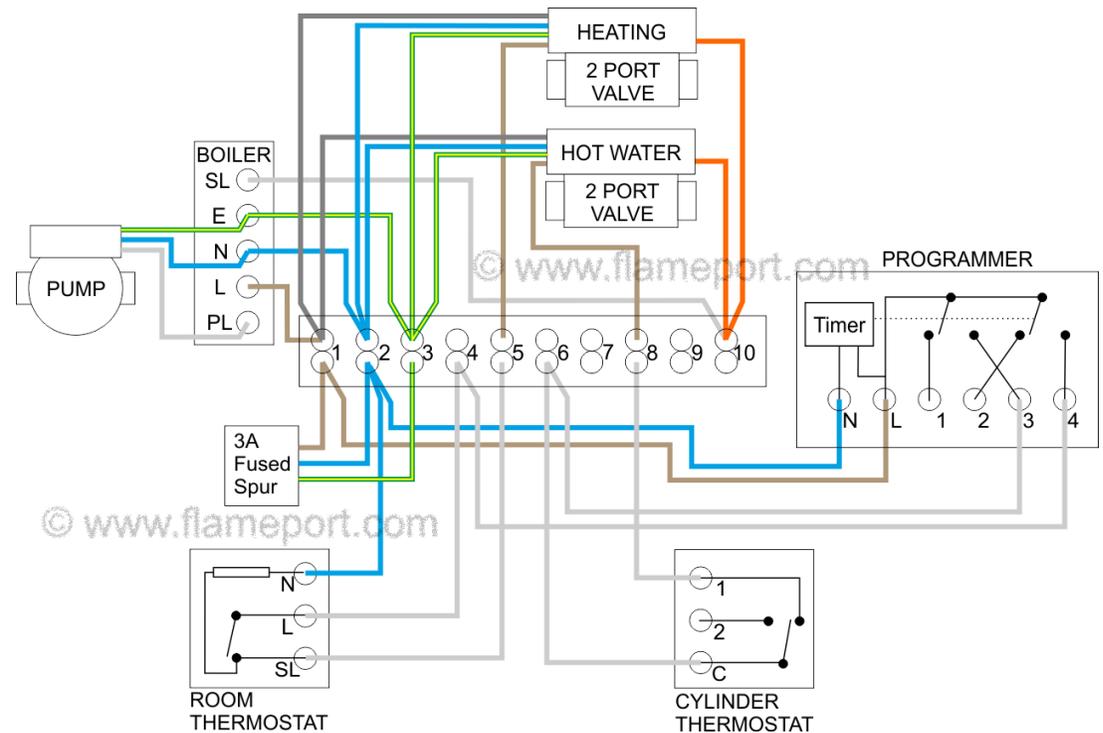


- ELEC3/04A –
- Electrical Installation Planning, Preparing and Designing
- This unit provides the learner an opportunity to acquire an understanding of electrical design and preparation together with how regulations and requirements affect the planned electrical installation.
- It aims to provide a facility of assessment and learning of electrical installation planning, preparing and designing.

- Ampacity
- Voltage Drop
- Short Circuit
- Motor Start Voltage
- Protective Device



- ELEC3/05 –
- Electrical Installation Craft Skills
- This unit provides the learner an opportunity to develop their practical skills relevant to electrical installation work.
- It covers preparation, installation and verification. It aims to promote the health and safety of the learner carrying out these electrical craft skills.
- It also provides a facility of learning and assessment of electrical installation craft skills in complex systems.



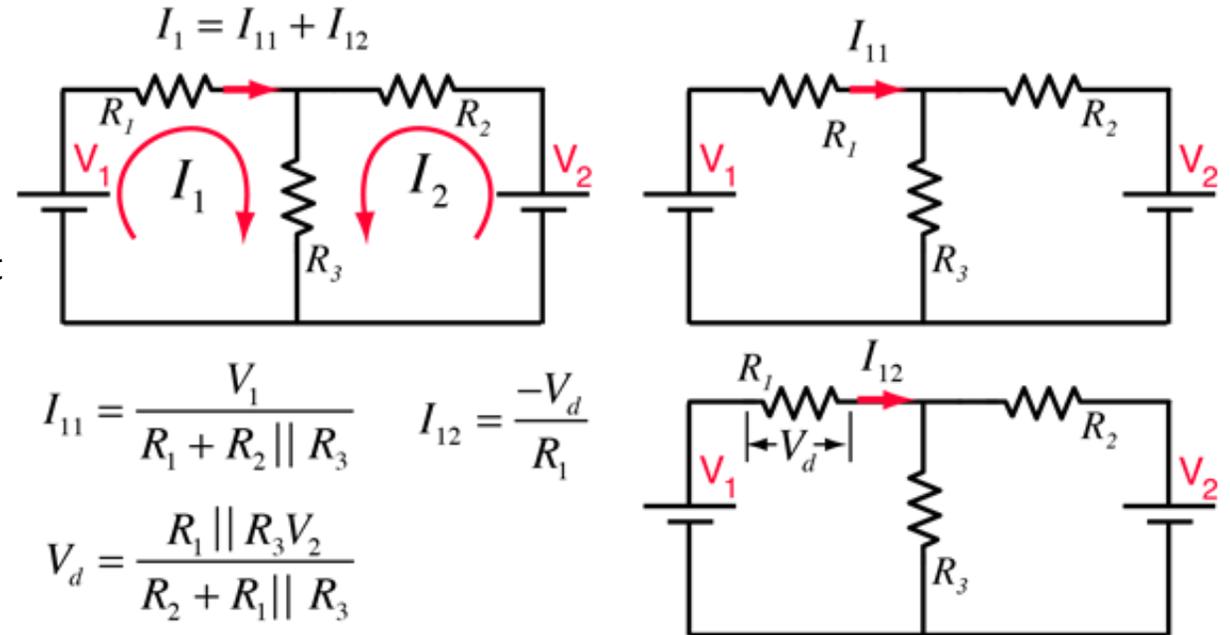
- QELTK3/006 –
- Understanding the principles, practices and legislation for the inspection, testing, commissioning and certification of electrotechnical systems and equipment.
- This unit enables learners to understand principles, practices and legislation for the inspection, testing, commissioning and certification of electrotechnical systems and equipment in buildings, structures and the environment in accordance with statutory and non-statutory regulations and requirements.
- The knowledge gained can then be applied to provide the skills for the inspection, testing, commissioning and certification of the installation



- QELTK3/007 –
- Understanding the principles, practices and legislation for diagnosing and correcting electrical faults in electrotechnical systems and equipment.
- This unit aims to provide learners with the knowledge and understanding of the principles, practices and legislation associated with diagnosing and correcting electrical faults in accordance with statutory and non-statutory regulations.
- The knowledge gained allows the learner to apply the skills for fault diagnosis and correction.



- ELEC3/08B –
- Electrical Science and Principles
- This unit provides the learner an opportunity to acquire an understanding of science and principles relevant to electrical work.
- It aims to provide a facility of assessment and learning of electrical science and principles.



$$I_{11} = \frac{V_1}{R_1 + R_2 \parallel R_3} \quad I_{12} = \frac{-V_d}{R_1}$$

$$V_d = \frac{R_1 \parallel R_3 V_2}{R_2 + R_1 \parallel R_3}$$

$R_1 \parallel R_3$ means the parallel resistance of R_1 and R_3 .

- QELTK3/003 –
- Understanding the practices and procedures for overseeing and organising the work environment (electrical installation)
- This recommended optional unit enables learners to understand practices and procedures for overseeing and organising the work environment for the installation of electrotechnical systems and equipment.
- Its content is the knowledge needed by a learner to underpin the application of skills for overseeing and organising the work environment.



Uniform and equipment

- PPE will be required for the practical parts of the course – Safety shoes, goggles and gloves
- A copy of the 18th Edition On Site Guide will also be required by students who follow this training course



Visits and trips

- Visitors to the college and external trips will be organised around the electrical sector.
- For these trips students may be required to wear their PPE as would typically be required by the electrical industry.



Assessment

- This course is assessed by:
- A range of On Line Exams and awarding body set, centre marked assignments and assessments.
- The assignments/assessments are made up of both theory and practical aspects covered within the course
- The internal assessment is accompanied by a marking criteria and other assessment material to ensure that the delivery team is consistent amongst learners with assessments.



T Level Building Services Engineering (Gas Engineering)

T Level Building Services Engineering (Electrical)

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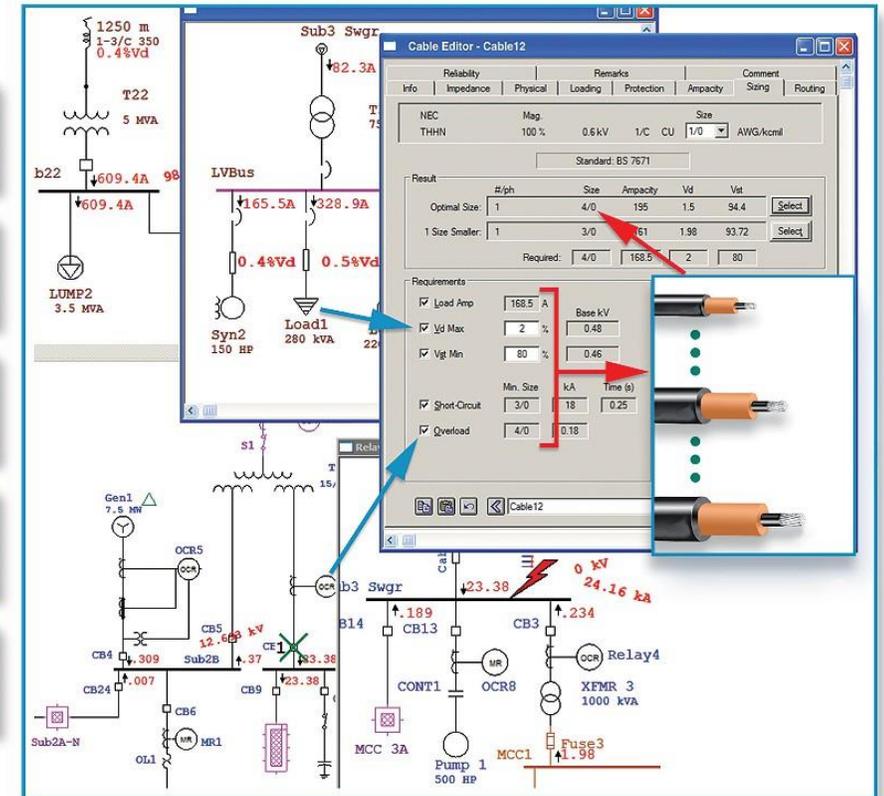


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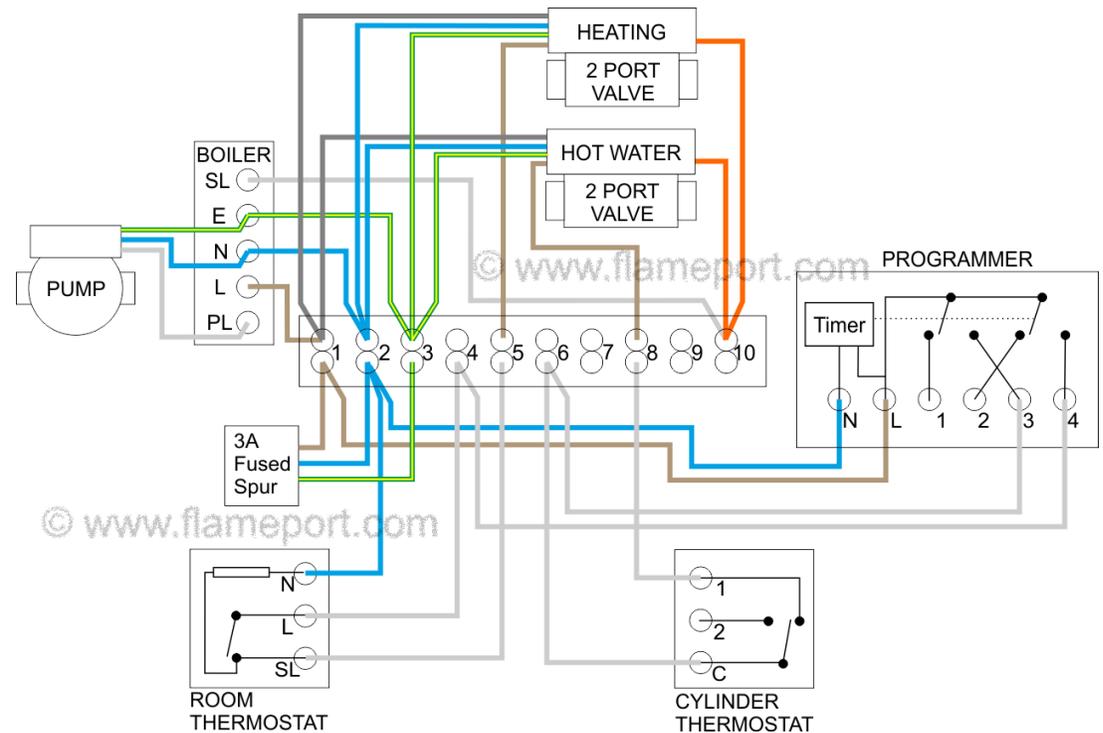


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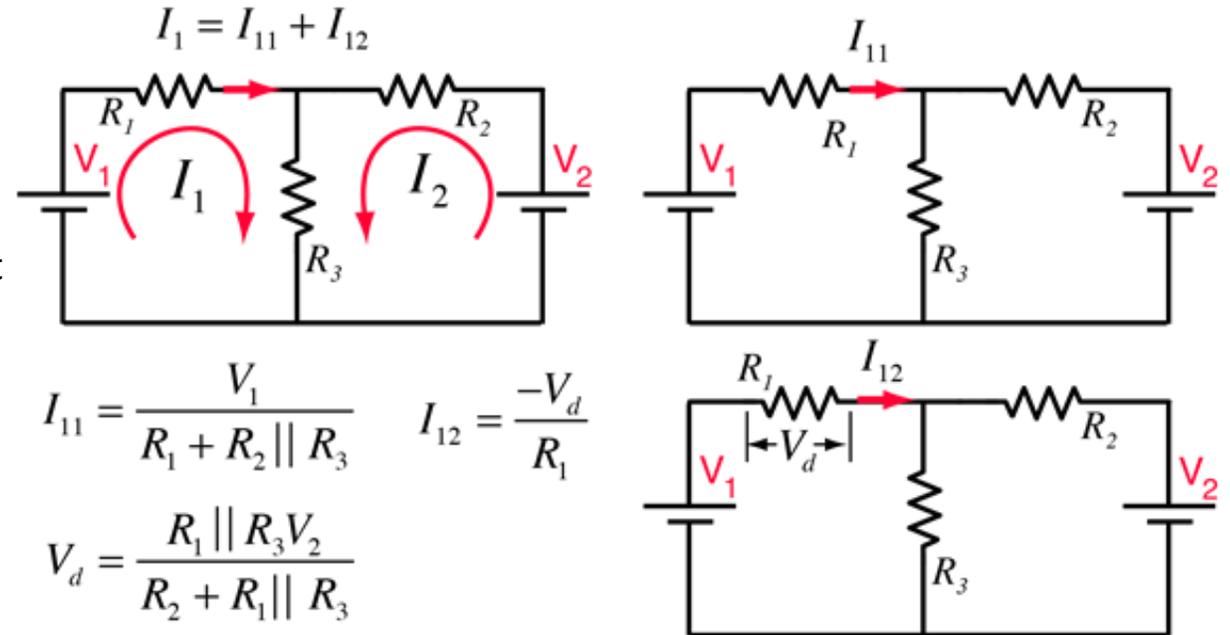
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T Level Building Services Engineering (Plumbing)

Uniform and equipment

During practical lessons there is a requirement for:

- Steel toe cap safety shoes
- Safety Gloves
- Safety glasses

There is no requirement for any uniform.



Visits and trips

At Newbury College we encourage students to join us on various trips we offer. Giving them an insight to some of the different aspects involved with plumbing.

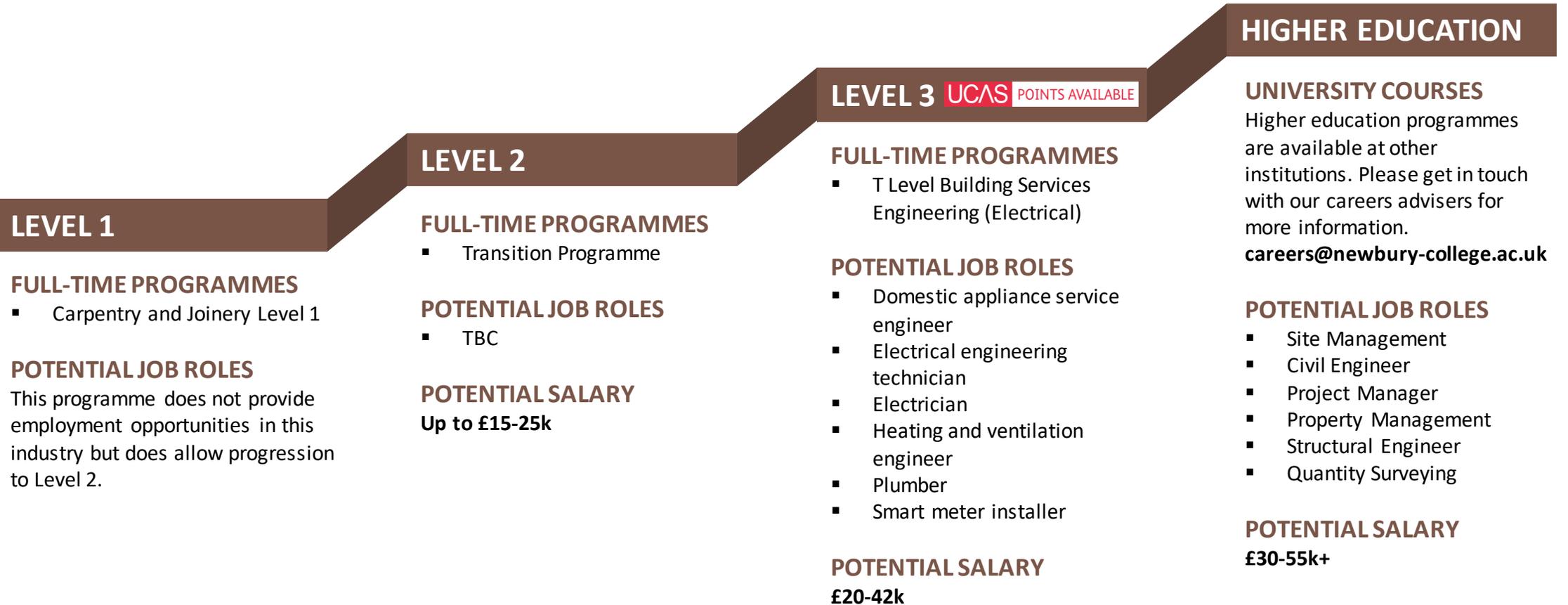


Assessment

Internal assessments involve collecting and evaluating evidence that demonstrates achievement of the learning outcomes in each unit:

- Understand & demonstrate fundamental safe working practices in building services engineering.
- Understand fundamental environmental protection measures within building services engineering.
- Understand fundamental scientific principles within building services engineering.
- Introduction to building services engineering.
- Understand fundamental plumbing systems.
- Understand and demonstrate fundamental common plumbing processes.
- Understand and demonstrate drilling and fixing methods of pipe supports and brackets appropriate to practical plumbing applications.
- Understand and demonstrate fundamental low carbon steel pipework practical plumbing applications.
- Understand and demonstrate fundamental copper tube practical plumbing applications.
- Understand and demonstrate fundamental plastic pipework practical plumbing applications.





How we can help

Tutors and support staff work closely together and with other local partners to provide you with:

- Learning support
- Progression coaching
- Health and wellbeing advice
- Financial support including free travel, meals and help with child care costs
- Careers advice
- Help with university applications



Funding your programme



Education & Skills
Funding Agency

The Education & Skills Funding Agency (ESFA)

The Education & Skills Funding Agency funds adult Further Education (FE) and skills training in England. It forms part of a network of organisations in England who commission, manage and promote training for adults and young people. The ESFA funds non-levy Apprenticeships (16yrs +), work placed and classroom based learning programmes throughout England for learners aged 19 and above. If you are enrolled onto an ESFA funded programme this is match funded by the European Social Fund (ESF). The ESFA also funds programmes for individuals aged 14-19 which includes the Study Programme (16-19) and Traineeships (16-18).



European Union
European
Social Fund

European Social Fund (ESF)

You may be enrolled onto a specific ESF project which will be funded by the European Union or if you are engaged onto any of our ESFA programmes, including non levy Apprenticeships, then this will be matched funded by ESF.

Any questions?

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If you have any questions or require further information on this course or any other aspects of studying at Newbury College, please contact us.

