

Information sheet for building services engineering colleges and training providers  
Version 2 – May 2007

## Qualifications and experience for tutors, trainers, lecturers and assessors

### 1 Introduction

This information sheet has been prepared in response to a number of enquiries concerning the qualifications and experience required to work as a tutor, trainer, lecturer or assessor delivering programmes to the building services engineering (BSE) sector. It should also be noted that awarding bodies and certification organisations will normally indicate specific requirements for trainers and assessors as part of scheme approval or centre accreditation processes.

The guidance itself is not mandatory, however it provides a framework for colleges and training providers to work with so that they can deliver quality provision to the standards required by industry.

The information provided focuses on the following four primary industries that sit within the BSE sector:

- Electrotechnical
- Plumbing
- Heating & Ventilating
- Refrigeration & Air Conditioning.

Potential tutors, trainers and lecturers (whether employed full or part-time) should be guided by the following requirements. If their qualifications do not appear in the list, or their work experience is not compatible with current working practices and technologies, further advice should be taken on bringing their qualifications up to date as there are systems and procedures that recognise recent and relevant work experience (i.e. through accreditation of prior learning).

The information, advice and recommendations outlined in this guidance note are of a general nature. However, they are intended for application where relevant in England, Northern Ireland, Scotland and Wales.

### 2 Experience & Qualifications (see also example person specifications)

There are two essential requirements for teaching/lecturing in the post-16 education sector:

- Applicants will need to demonstrate a strong background in the subject, discipline or vocational area they wish to teach or train in. Generally speaking, applicants for teaching/lecturing positions should have at least the same level of qualification that they would be teaching to (or preferably one level higher)

and have attained the appropriate amount of professional experience (see appendices).

- Applicants will need to gain an endorsed teaching qualification (& assessment qualifications if delivering S/NVQs or plumbing technical certificates). For more specific advice on the qualifications required to becoming a tutor/lecturer please contact:

***Lifelong Learning UK (LLUK) Information and Advice Team***  
**☎ 020 7936 5798 or E-mail at [helpline@lifelonglearninguk.org](mailto:helpline@lifelonglearninguk.org)**

SummitSkills recommends that staff involved in delivering training and skills programmes for the BSE sector should also have the following skills and abilities:

- Good presentation, communication, administrative and organisational skills (it is recommended that literacy and numeracy skills should be to at least Level 3 key skills equivalents).
- Ability to establish productive and supportive working relationships with students, clients and colleagues.
- Good IT skills and the ability to use information & learning technology.
- The ability to motivate and inspire individuals.
- Able to maintain standards and create, manage and maintain a learning culture.
- Good awareness and management of health & safety.
- A desire to achieve excellence in their professional work.
- Knowledge and appropriate competence in the application and interpretation of appropriate statutory regulations, industry standards and codes of practice (i.e. the water & electrical regulations and relevant sections of the building regulations etc.).
- The individual should have an understanding and appreciation of the emerging requirements for environmental technologies and renewable energy initiatives (i.e., solar panels, heat pumps, photovoltaic cells etc.) as well as an appreciation of energy efficiency issues, brought about by government and the consequent changes in various regulations.

### 3 Continuous Personal Development (CPD)

The BSE sector is continually changing. To keep up to date with current standards and practices it is important that both new and existing staff in the further education sector have evidence of continuing professional development. This can be gained for example by:

- Attending technical seminars / workshops / exhibitions
- Keeping up to date with various trade press magazines
- Updating old qualifications
- Obtaining new qualifications to up-skill
- Attending short courses facilitated by manufacturers
- Gaining work experience or secondment opportunities in industry to update professional experience
- Keeping up to date and engaging with the BSE sector's industry bodies (for a list of key organisations please visit <http://www.summitskills.org.uk/links/110>)

### 4 General recommendations

It is important that individuals responsible for delivering training and skills have a good understanding of the current initiatives relating to standards and qualifications developments in the BSE sector. Some practical ways to keep up to date are as follows:

- Frequently visit the SummitSkills website and register on-line to receive updates direct to your e-mail account (visit <http://www.summitskills.org.uk> for more information).
- Become familiar with the national occupational standards for your specialised subject areas (visit <http://www.summitskills.org.uk/standards/31> for more information).
- Frequently visit the appropriate awarding bodies websites (City & Guilds, EAL, SQA, BTEC etc.) and register on-line to receive updates direct to your e-mail account.
- Become involved with SummitSkills initiatives and projects by joining one of our training groups (12 across the UK) or industry interest groups (visit <http://www.summitskills.org.uk/meetings/30> for more information)
- Check out the various career options and progression routes available for people training in the BSE sector (visit <http://www.summitskills.org.uk/careers/23> for more information).
- Be familiar with the structure and components of the building services engineering sector apprenticeship frameworks (visit <http://www.summitskills.org.uk/cgi-bin/go.pl/frameworks/index.html>)

We also recommend that colleges and training providers offer new staff opportunities to develop skills in the following areas;

- Producing an Individual Learning Programme (ILP) for a candidate.
- Creating schemes of work, individual lesson plans and assessment plans.
- Coaching and mentoring (especially important for new teaching staff).
- Being able to identify individuals preferred learning styles and, where appropriate, identify any learning difficulties and implement additional support.
- Assessment methodologies applicable to the sector and guidance on the S/NVQ code of practice (provide opportunities to gain assessor qualifications).
- Continuing professional development opportunities, in order to develop teaching/training skills and maintain professional expertise.
- Maintain links with the industry through continuing membership of professional bodies and regular engagement/dialogue with other industry bodies and employers.
- Be aware and understand all of the various internal & external quality assurance policies & processes, which may include:
  - internal & external verification/moderation
  - course reviews / course evaluations
  - curriculum files
  - tutorials & action planning
  - graded lesson observations
  - self assessment reports
  - inspections (i.e. QAA, Ofsted etc.)
  - performance/professional reviews

## **5 Sample person specifications**

SummitSkills has produced several person specifications. These provide further guidance for colleges and training providers regarding the qualifications, experience, skills, abilities & qualities that we would recommend that persons involved in teaching and training candidates in the BSE sector should possess.

Sample person specifications are available for the following teaching/training and assessor positions:

- Workshop technician (may suit candidates who do not possess formal craft qualifications).
- Lecturer for craft occupations (plumbing, electrical, heating & ventilating and refrigeration & air conditioning)

- Lecturer for technical & professional occupations (design engineer, estimator, contract or project manager and consulting engineer)

## **6 Recommended qualifications**

SummitSkills has also produced several lists that identify the appropriate, equivalent and the desirable qualifications that persons involved in teaching, training or assessing candidates in the BSE sector should have obtained.

The lists cover the following craft occupational areas;

- Plumbing
- Heating & ventilating
- Refrigeration & air conditioning
- Electrotechnical

Further work will be carried out to provide similar lists for colleges and training providers offering higher level qualifications for the BSE sector.

**Further guidance can be obtained by contacting SummitSkills:**

Tel: 01908 303960

Email: [enquiries@summitskills.org.uk](mailto:enquiries@summitskills.org.uk)

## Plumbing

Teachers and assessors should have **\*\*two years'** relevant plumbing experience within a mechanical services organisation, after achieving an appropriate qualification and current knowledge of the sector. They will also require an understanding of the national occupational standards and S/NVQ qualification structures for the programmes they will be teaching and assessing. The following table contains recommendations with regard to the desired qualifications for plumbing teachers.

The requirement for two years post qualification can be waived if the candidate can prove that they have had two years' suitable work experience prior to achieving the qualification. This experience needs to be varied and reflect the range of systems.

Qualifications to be taught				
Plumbing	Level	Recommended minimum qualification	Alternative qualification	Desirable additional qualifications
*Certificate in basic plumbing studies (not Scotland)	2	Plumbing S/NVQ level 3	City & Guilds advanced craft certificate in plumbing (or equivalent in Scotland)	Current ACS, water regulations & unvented hot water certificates
*NVQ Mechanical engineering services plumbing (not Scotland)	2			
*Certificate in domestic plumbing studies (not Scotland)	3	Plumbing S/NVQ level 3	City & Guilds advanced craft certificate in plumbing (or equivalent in Scotland)	Current ACS, water regulations & unvented hot water certificates
*S/NVQ Mechanical engineering services plumbing (domestic)	3			
*NVQ Industrial & Commercial Plumbing (not Scotland)	3	Plumbing S/NVQ level 3	**As no previous qualifications were available candidates would need to demonstrate at least 5 yrs relevant work experience	

**Note:**

\*All teachers / assessors would also need to meet all awarding body requirements (including assessor qualifications where appropriate).

## Heating & Ventilating

Teachers and assessors should have three years' relevant industrial experience and current knowledge of the HVACR sector as well as an understanding of the national occupational standards and S/NVQ qualification structures. The following table contains recommendations with regard to the desired qualifications for heating & ventilating teachers.

Qualifications to be taught				
Heating & Ventilating	Level	Recommended minimum qualification	Alternative qualification	Desirable additional qualifications
Certificate in heating & ventilating domestic installation (not Scotland)	2	H&V domestic installation S/NVQ level 2	City & Guilds craft certificate in plumbing (or equivalent in Scotland)	Current ACS, water regulations & unvented hot water certificates
*S/NVQ in heating & ventilating domestic systems installation	2			
Certificate in heating & ventilating complex domestic installation (not Scotland)	3	H&V domestic installation S/NVQ level 3	City & Guilds advanced craft certificate in plumbing (or equivalent in Scotland)	Current ACS, water regulations & unvented hot water certificates
*S/NVQ in heating & ventilating complex domestic systems installation	3			
Certificate in heating & ventilating industrial & commercial installation	2	H&V industrial & commercial installation S/NVQ level 2	City & Guilds craft certificate in heating & ventilating fitting (or equivalent in Scotland)	
*S/NVQ in heating & ventilating industrial & commercial installation	2			

<b>Qualifications to be taught</b> (Continued / ...)				
<b>Heating &amp; Ventilating</b>	<b>Level</b>	<b>Recommended minimum qualification</b>	<b>Alternative qualification</b>	<b>Desirable additional qualifications</b>
Certificate in heating & ventilating complex industrial & commercial installation	3	H&V industrial & commercial installation S/NVQ level 3	City & Guilds advanced craft certificate in heating & ventilating fitting (or equivalent in Scotland)	Current ACS certificate (non-domestic) Pipe welding competencies in MMA & O/A disciplines
*S/NVQ in heating & ventilating complex industrial & commercial installation	3			
Certificate in heating & ventilating ductwork installation (not Scotland)	2	H&V ductwork installation S/NVQ level 2	Successful completion of the HVCA ductworker's erectors training scheme	
*S/NVQ in heating & ventilating ductwork installation	2			
Certificate in heating & ventilating complex ductwork installation (not Scotland)	3	H&V ductwork installation S/NVQ level 3	Successful completion of the HVCA ductworker's erectors training scheme	
*S/NVQ in heating & ventilating complex ductwork installation	3			
Certificate heating & ventilating – maintenance of system components	2	H&V maintenance of system components S/NVQ level 2	City & Guilds craft certificate in heating & ventilating fitting – with appropriate experience in MES service & maintenance (or equivalent in Scotland)	Current ACS certificate (domestic & non-domestic)
*S/NVQ in heating & ventilating – maintenance of system components	2			

<b>Qualifications to be taught</b> (Continued / ...)				
<b>Heating &amp; Ventilating</b>	<b>Level</b>	<b>Recommended minimum qualification</b>	<b>Alternative qualification</b>	<b>Desirable additional qualifications</b>
Certificate heating & ventilating – rectification of systems	3	H&V rectification of systems S/NVQ level 3	City & Guilds advanced craft certificate in heating & ventilating fitting – with appropriate experience in MES service & maintenance (or equivalent in Scotland)	Current ACS certificate (domestic & non-domestic)
*S/NVQ in heating & ventilating – rectification of systems	3			

**Note:**

\*All teachers / assessors would also need to meet all awarding body requirements (including assessor qualifications where appropriate).

## Refrigeration & Air Conditioning

Teachers and assessors should have three years' relevant industrial experience and current knowledge of the RAC sector as well as an understanding of the national occupational standards and S/NVQ qualification structures. The following table contains recommendations with regard to the desired qualifications for refrigeration & air conditioning teachers.

Qualifications to be taught				
Refrigeration & Air Conditioning	Level	Recommended minimum qualification	Alternative qualification	Desirable additional qualifications
Certificate in refrigeration & air conditioning systems (not Scotland)	2	RAC S/NVQ level 2	City & Guilds craft certificate in RAC (or equivalent in Scotland)	Safe handling of refrigerants competency certificate and Brazing competency certificate
*S/NVQ in refrigeration & air conditioning	2			
Certificate in refrigeration & air conditioning (not Scotland)	3	RAC S/NVQ level 3	City & Guilds advanced craft certificate in RAC (or equivalent in Scotland) City & Guilds Technician in Refrigeration.	
*S/NVQ in refrigeration & air conditioning (industrial & commercial air conditioning)	3	RAC S/NVQ level 3 (I/C air conditioning)		
*S/NVQ in refrigeration & air conditioning (ammonia refrigeration systems)	3	RAC S/NVQ level 3 (ammonia refrigeration)	City & Guilds advanced craft certificate in RAC (or equivalent in Scotland)	
*S/NVQ in refrigeration & air conditioning (non-ammonia refrigeration systems)	3	RAC S/NVQ level 3 (non-ammonia refrigeration)	City & Guilds advanced craft certificate in RAC (or equivalent in Scotland)	

**Note:**

\*All teachers / assessors would also need to meet all awarding body requirements (including assessor qualifications where appropriate).

## Electrotechnical

Teachers and assessors should have a minimum of three years' experience as a qualified operative/practitioner within the electrotechnical sector and possess a qualification relevant to the occupation and level of competence being taught / assessed. They must also be in possession of a current health and safety qualification, e.g. IOSH working safely certificate or an approved equivalent. Additionally, they should have recent industrial experience and current knowledge of the electrotechnical sector as well as an understanding of the national occupational standards and S/NVQ qualification structures. The following table contains recommendations with regard to the desired qualifications for electrotechnical teachers.

Qualifications to be taught				
Electrotechnical	Level	Recommended Minimum qualification	Alternative qualification	Desirable additional qualifications
Certificate in Electrotechnical technology (not Scotland)	2	Electrotechnical S/NVQ level 3	Certificate in electrical installation theory & practice (part 2)	AM1 Certificate in Inspection & testing Certificate in electrical regulations BS 7671
*NVQ in installing Electrotechnical systems (only available in Wales)	2			
Certificate in Electrotechnical technology (not Scotland)	3	Electrotechnical S/NVQ level 3 (buildings & structures)	Certificate in electrical installation theory & practice – level 3	AM1 & 2 / FICA Certificate in Inspection & testing Certificate in electrical regulations BS 7671
*S/NVQ in Electrotechnical Services – installation (buildings & structures)	3			

<b>Qualifications to be taught / (Continued .....</b>				
<b>Electrotechnical</b>	<b>Level</b>	<b>Recommended Minimum qualification</b>	<b>Alternative qualification</b>	<b>Desirable additional qualifications</b>
*S/NVQ in Electrotechnical Services – electrical maintenance	3	Electrotechnical S/NVQ level 3 (electrical maintenance)	Certificate in electrical installation theory & practice – level 3 (with maintenance experience)	AM1 & 2 / FICA Certificate in Inspection & testing Certificate in electrical regulations BS 7671
*S/NVQ in Electrotechnical Services – installing instrumentation & ass equip	3	Electrotechnical S/NVQ level 3 (instrumentation & ass equip)	Certificate in electrical installation theory & practice – level 3 (with instrumentation experience)	AM1 & 2 / FICA Certificate in Inspection & testing Certificate in electrical regulations BS 7671
*S/NVQ in Electrotechnical Services – installing highway electrical systems	3	Electrotechnical S/NVQ level 3 (highway electrical systems)	Certificate in electrical installation theory & practice – level 3 (with experience of highway installations)	AM1 & 2 / FICA Certificate in Inspection & testing Certificate in electrical regulations BS 7671
*S/NVQ in Electrotechnical Services – panel building	3	Electrotechnical S/NVQ level 3 (panel building)	Certificate in electrical installation theory & practice – level 3 (with panel building experience)	AM1 & 2 / FICA Certificate in Inspection & testing Certificate in electrical regulations BS 7671
*S/NVQ in Electrical machine rewind & repair		Electrotechnical S/NVQ level 3 (machine rewind & repair)	Certificate in electrical installation theory & practice – level 3 (with machine rewind & repair experience)	AM1 & 2 / FICA Certificate in Inspection & testing Certificate in electrical regulations BS 7671

**Note:**

\*All teachers / assessors would also need to meet all awarding body requirements (including assessor qualifications where appropriate).