

BCS Intermediate Certificate EU Code of Conduct in Data Centres Syllabus

**Version 2.6
December 2016**

This professional certification is not regulated by the following United Kingdom Regulators - Ofqual, Qualification in Wales, CCEA or SQA

Change History

Any changes made to the syllabus shall be clearly documented with a change history log. This shall include the latest version number, date of the amendment and changes made. The purpose is to identify quickly what changes have been made.

| Version Number and Date | Changes Made |
|--------------------------------|--|
| Version 2.6 December 2016 | Strapline regarding regulated statement has been added |
| Version 2.5 December 2015 | Removed reference to Prometric & Pearson |
| Version 2.4 March 2015 | Updated language requirements for extra time and use of dictionaries. Standardised the trainer requirements |
| Version 2.3 September 2012 | Added in details of extra time for foreign language candidates. Removed ISEB references. |
| Version 2.2 December 2011 | Updated version number of 'Best Practice Guide' on final page |
| Version 2.1 May 2011 | Reduced number of study hours down to 10. |

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Aims and Objectives

This course explicitly deals with an organisation's 'Green' strategy as it relates to the effective use of energy by software, ICT systems and support infrastructure (mechanical and electrical systems) within the data centre. It will impart an understanding of the purpose of the EU Code of Conduct and how to apply the Code's best practices at a high-level as well as helping to develop a common language around energy efficiency.

Candidates can expect to gain knowledge and understanding in the following areas upon successful completion of the education and examination components related to this certification.

- Why was the best practice section of the Code developed? (Blooms Level 1 – Remembering)
- What is the Code? (Blooms Level 2 – Understanding)
- Understanding and Implementing the best practices (Blooms Level 3 – Applying)
- Implementing best practice in a tiered supplier environment (Blooms Level 3 – Applying)
- Examples of implementation (Blooms Level 1 – Remembering)

Target Group

The purpose of the BCS Intermediate Certificate in EU Code of Conduct is to certify that the candidate has gained the knowledge of the need for, engineering principles of, terminology, structure and basic concepts of the EU Code of Conduct on Data Centres along with implementing and obtaining participant status in the Code.

The Certificate is not intended to enable the holder of the certificate to individually be able to optimise all aspects of a data centre without assistance from technology area experts but will allow the holder to direct such experts to achieve overall efficiency and cost improvements.

Those that are likely to be interested in obtaining a qualification of this nature would include:

- Data Centre Managers
- Data Centre Operators
- Data Centre Design Consultants
- Data Centre Technicians
- IT Purchasers (Hardware & Software)
- IT Architects / Solution Consultants
- Independent IT Consultants
- CSR / Environmental Champions within the technology departments
- Pre-Sales Engineers from OEM Vendors

Course Format and Duration

Candidates can study for this certificate in two ways: by attending training courses provided by Accredited Training Organisations or by self-study. Each major subject heading in this syllabus is assigned an allocated time. The purpose of this is two-fold: first, to give both guidance on the relative proportion of time to be allocated to each section of an accredited course and an approximate minimum time for the teaching of each section; second, to guide the proportion of questions in the exam.

Accredited Training Organisations may choose to extend the duration of the course and spend more time than is indicated and candidates may spend more time again in reading and research. The total time specified is 10 hours of lecture and practical work delivered over a minimum of 2 days. The course can be delivered a number of different ways from traditional class-room based training to online e-learning.

Eligibility for the Examination

There are no specific pre-requisites for entry to the examination; however candidates should possess the appropriate level of knowledge to fulfil the objective shown above.

Format and Duration of the Examination

The format for the examination is a one hour complex multiple-choice examination consisting of 25 questions based on 5 scenarios. The examination is partially open book; the EU Code of Conduct Best Practice Guidelines document can be taken into the examination room, but no other reading material is allowed. The pass mark is 15/40.

Additional time for candidates requiring Reasonable Adjustments due to a disability

Candidates may request additional time if they require reasonable adjustments. Please refer to the [reasonable adjustments policy](#) for detailed information on how and when to apply.

Additional time for candidates whose language is not the language of the examination

If the examination is taken in a language that is not the candidate's native / official language then they are entitled to 25% extra time.

If the examination is taken in a language that is not the candidate's native / official language then they are entitled to use their own **paper** language dictionary (whose purpose is translation between the examination language and another national language) during the examination. Electronic versions of dictionaries will **not** be allowed into the examination room.

Levels of Knowledge / SFIA Levels

The course will provide candidates with the levels of difficulty, knowledge and skill highlighted within the following table, enabling them to develop the skills to operate at the levels of responsibility indicated.

The levels of knowledge and SFIA levels are explained on the website www.bcs.org/levels.

| Level | Levels of Knowledge | Levels of Skill and Responsibility (SFIA) |
|-----------|---------------------|---|
| K7 | | Set strategy, inspire and mobilise |
| K6 | Evaluate | Initiate and influence |
| K5 | Synthesise | Ensure and advise |
| K4 | Analyse | Enable |
| K3 | Apply | Apply |
| K2 | Understand | Assist |
| K1 | Remember | Follow |

Syllabus

1. Introduction – Why is best practice in the Code of Conduct needed and who will use it? (1 hour)

- 1.1 Explain why best practice needs to be defined
- 1.2 Explain how to benchmark the performance of a facility
- 1.3 Understand the data centre requirements

2. Introduction to Best Practice (2 hours)

- 2.1 Explain how to benchmark the performance of a facility
- 2.2 Identify the levels of participation
- 2.3 Understand the data centre requirements

3. Best Practice – Interactions and Interdependencies (2 hours)

- 3.1 Describe the interactions various systems and the environment
- 3.2 Define and explain the result in interactions and interdependencies
- 3.3 Define and explain the factors affecting how energy is consumed

4. Best Practice – In detail (4 hours)

- 4.1 Explain and define specific goals and intent
- 4.2 Identify and list best practice sections
- 4.3 Understand the relevant section in detail for each of the best practice sections of the code:
 - Data Centre Utilisation, Management and Planning
 - IT Equipment and Services
 - Cooling
 - Data Centre Power Equipment
 - Other Data Centre Equipment
 - Data Centre Building
 - Monitoring
 - Practices to become minimum expected
 - Items under consideration

This unit may be interactive and may use Case Studies as the basis. Candidates may consider the Best Practices for each example using Reporting Forms as the focus.

5. Energy Measurement and Metrics (15%)

- 5.1 Explain the importance of benchmarking energy consumption
- 5.2 Define how to measure energy efficiency and use metrics

Format of the Examination

| | |
|--------------------------|--|
| Type | 25 question, scenario based complex multiple choice |
| Duration | 1 Hour. An additional 15 minutes will be allowed for candidates sitting the examination in a language that is not their native /mother tongue. |
| Pre-requisites | None, although accredited training is strongly recommended |
| Supervised / Invigilated | Yes |
| Open Book | Partial – Only the EU Code of Conduct Best Practice Guidelines is allowed into the examination room |
| Pass Mark | 15/25 (60%) |
| Calculators | Calculators cannot be used during this examination |
| Distinction Mark | None |
| Delivery | Paper based examination or on-line examination. |

Trainer Criteria

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|----------|---|
| Criteria | <ul style="list-style-type: none">• Hold the BCS Intermediate Certificate in EU Code of Conduct• Have 10 days training experience• Have a minimum of 3 years practical experience in the area of EU Code of Conduct |
|----------|---|

Class Room Size

| | |
|----------------------------|------|
| Trainer to candidate ratio | 1:16 |
|----------------------------|------|

Useful Links

- EU Code of Conduct for Data Centres – the Best Practice Guidelines, Version 3.0.1 (pdf) can be downloaded from the link below.
http://sunbird.jrc.it/energyefficiency/html/standby_initiative_data_centers.htm
- EU Code of Conduct on Data Centres Introductory Guide
http://sunbird.jrc.it/energyefficiency/pdf/DataCenter_CodeOfConduct_Introductory_Guide.pdf
- BCS Data Centre Specialist Group
<http://dcsg.bcs.org/content/view/62/62/>