



# Webinar Questions & Answers

## Changes to assessment in Higher Engineering Science

### 1 Question paper

***When responding to calculation questions, do candidates need to use negative indicies in responses, or would m/s still be awarded a mark?***

Whilst SQA will use the indice format, as seen in our data booklets (e.g.  $\text{ms}^{-1}$  for metres per second), throughout our question papers, we will accept any valid unit in a candidate response (e.g. m/s for meters per second).

***What language of code are candidates to use?***

Centres can make use of any high level language that meets the requirements of the course. However, in Higher question papers we will use Arduino and PBasic, just as we do at Advanced Higher.

***Will candidates have to write code in a question paper?***

As stated in the Course Specification, we won't ask candidates to write code in the question paper. However we will have questions where candidates will need to interpret code, troubleshoot or identify faults.

***Will you provide any examples of code-related questions?***

Our revised specimen question paper does not contain any examples (as it samples course content and we can't exemplify everything at once) and we will not be providing any additional specimen assessment materials at this time – however the question could take the form of:

- a specification being given along with some code; the question may then state that there is a problem in a highlighted section of code and ask candidates to identify the errors.
- a section of code is given and candidates are asked to interpret it and state what it does/ means (much like similar questions with a pneumatic circuit).

***What level of demand will the code questions be set at?***

As with any other area of content, the code-related questions may be of A, B or C level demand (depending on how they are asked or what specific part of this content is being assessed).

***Is this code content new?***

No. This content has always been part of the course (and previously delivered and assessed as part of the Electronics and Control unit), as such, centres will be familiar with this area of content.

## 2 Assignment

### ***When will the Higher assignment be issued?***

As with National 5, it will be published to the secure area of the SQA website at the end of January each academic session and will be for the use of candidates who will be sitting the question paper in May-June of that same academic session.

### ***Will content from outwith the course be needed in the assignment?***

No. Only course content will be assessed in the assignment (and question paper).

### ***In the assignment, will candidates have to solve pneumatics problems with components and air compressors?***

Where we have a task that asks candidates to solve a pneumatics problem, we will state "Simulate or construct...". This means that candidates can use either pneumatic simulation software or physical components dependent upon their preference or what is available in their centre.

### ***Will centres have access to the finalised marking instructions for the assignment?***

Yes but, as with question paper marking instructions, these will not be published until after certification each academic session.

### ***What simulation software should we use for electronics, pneumatics and structures?***

We cannot recommend or approve any particular piece of software. Centres should ensure that whatever they want to use meets the requirements of the course.

### ***My centre doesn't have pneumatic components (or a compressor) and we cannot get simulation software, what should we do?***

Without one or the other, you are not in a position to deliver the course.

### ***Are you still recommending the World Economic Forum website for the emerging technologies section as per National 5, as this hasn't been updated?***

We don't recommend any single website for 'emerging technologies' – the World Economic Forum was simply an example that our presenter used last year. Centres should look into this themselves (or possibly task candidates with this as a homework exercise), as there are a range of websites (and other sources of information) on this area of course content.

### ***The assignment is supposed to be done without Internet access, but my beam simulation software is web-based; how can my candidates use this?***

There is no issue with using web-based software. However, please look at the 'resources' section of the 'instructions for teachers and lecturers' of the specimen assignment document (which will be replicated in the live assignment document) for specific advice on this.

### ***How much class time should be spent on the assignment?***

Candidates have eight hours to undertake the assignment. Instruction is given in the specimen assignment document (which will be replicated in the live assignment document) on how to account for this time.

### ***Can screen dumps/ screenshots be used as evidence for the assignment?***

Yes. This is how we'd expect candidates who use simulation software to present their evidence.

Where something is constructed, rather than simulated, the evidence would typically be a photograph of the components – these photographs must be printed to a page (i.e. not glued to a page) and must

be large/ clear enough for a marker to interpret.

***Will there be any circumstance, in the assignment, where a teacher could supply a solution to an earlier stage to allow a candidate to progress further?***

No. Teachers and lecturers cannot assist the candidates with the assignment in any way.