

SQA Advanced Unit Specification

General information for centres

Unit title: Engineering Project

Unit code: HV3P 47

Unit purpose: This Unit is designed to allow the candidate to assume the role of the Project Engineer, having gained experience of performing the duties of the Project Engineer through the work carried out for this project.

On completion of the Unit the candidate should be able to:

- 1 Provide a brief for the project investigation.
- 2 Maintain effective control of the project.
- 3 Work with others in the completion of the project
- 4 Present project information.

Credit points and level: 1 SQA Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from National 1 to Doctorates.*

Recommended prior knowledge and skills: It would be an advantage for candidates to have completed a National Certificate in an engineering discipline.

Core Skills: There may be opportunities to gather evidence towards the Core Skills of Communication, Problem Solving and Working With Others in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Assessment: The integrated assessment for the Unit, covering all Outcomes, will take the form of a written technical report and verbal presentation. The report should be approximately 2,000 words and the verbal presentation should last 10–15 minutes.

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SQA Advanced Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, knowledge and/or skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Provide a brief for the project investigation

Knowledge and/or skills

- ◆ Objectives to be met
- ◆ Planning to meet objectives

Evidence Requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can provide a project brief and action plan for completion of the project.

Outcome 2

Maintain effective control of the project

Knowledge and/or skills

- ◆ Management of the investigative process
- ◆ Monitoring of own performance
- ◆ Time management

Evidence Requirements

Candidates will need evidence to demonstrate their skills and/or knowledge by showing that they can ensure that targets set in Outcome 1 are met, are aware of their own performance and the need to reset targets where deemed necessary.

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Outcome 3

Work with others in the completion of the project

Knowledge and/or skills

- ◆ Management of project tasks
- ◆ Providing verbal and written guidance for others
- ◆ Assisting the overall Project Manager
- ◆ Cooperating with others in project tasks

Evidence Requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can communicate and co-operate with the project manager and others involved in completion of the project tasks.

Outcome 4

Present project information

Knowledge and/or skills

- ◆ Production of a technical report
- ◆ Evaluation of information
- ◆ Forming conclusions
- ◆ Oral presentation

Evidence Requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can produce a technical report that satisfies the project brief, evaluate the information evidence gathered and make clear recommendations and make a clear presentation of an overview of the project and the basis for recommendations.

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Administrative Information

Unit code:	HV3P 47
Unit title:	Engineering Project
Superclass category:	XA
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SQA Advanced Unit specification: support notes

Unit title: Engineering Project

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

The candidate will assume the role of the Project Engineer and the lecturer the role of the Project Manager.

Outcome 1

The project brief must be agreed by the Project Manager. The project must be judged as worthy of investigation and capable of providing a learning experience for a candidate completing a SQA Advanced Certificate. An action plan must be produced that will clearly guide the candidate through the required steps in completing the project investigation, showing clearly how information/evidence would be gathered and recorded.

Outcome 2

The candidate will have ample opportunity to demonstrate control of the investigation. Where deviation from the action plan is deemed necessary it is important that amendments to the action plan are made — the initial action plan is only a guide and may need to evolve as the project progresses. It is important the candidate recognises where amendments are required.

Outcome 3

Good communication skills and the ability to work as part of a team are clear requirements of a Project Engineer in an engineering organisation. The demands of this Outcome will provide an opportunity for the candidate to demonstrate communication skills both verbally and in writing. It would be expected the meetings with the Project Manager should be minuted by the candidate and submitted as evidence to support success in this Outcome. Written verbal and written instruction should be given to others in the team expected to carry out tasks to support the Project Engineer (eg workshop technicians). There may be an opportunity with the project where practical workshop tasks can be shared, however the reports must be an individual effort.

The recording of team members and their participation in the project could be used to provide evidence of working with others.

Outcome 4

When the work is complete it can be assembled to provide written and graphical evidence of the ability to produce a technical report. Evaluation/problem solving skills can be demonstrated by providing reasoned evaluation of the evidence gathered, forming competent recommendations on the outcome of the project.

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The oral presentation of the project should be an overview of the project with the evaluation taking a prominent part of the presentation. Candidates must be encouraged to use presentation media to enhance the delivery of the presentation.

Guidance on the delivery and assessment of this Unit

It would be beneficial if this Unit was linked to the Unit (HP4A 47) Communication: Practical Skills for delivery and assessment.

Opportunities for developing Core Skills

There may be opportunities to gather evidence towards the Core Skills of communication, problem solving and working with others in this Unit.

Open learning

This Unit should be made available to candidates who will require minimum support from the centre. The project being work-based supported by professional interview and witness testimony.

Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

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General information for candidates

Unit title: Engineering Project

This Unit is an opportunity for you to demonstrate project-engineering skills.

You will be required to:

- ◆ provide a brief for a project investigation
- ◆ maintain effective control of the project
- ◆ work with others in the completion of the project
- ◆ present project information

Assessment is in the form of a report (with supporting evidence) and oral presentation that will contribute to the achievement of your Core Skills profile.

You are advised to work with a lecturer/mentor in selecting an appropriate subject to develop into a project and project report. The subject for the project can be work or centre based.