SQA Advanced Unit Specification

General information

Unit title: Architecture: Form, Order and Composition (SCQF level 7)

Unit code: HR6Y 47

Superclass: TD

Publication date: August 2017

Source: Scottish Qualifications Authority

Version: 01

Unit purpose

This Unit is designed to enable learners to develop the underpinning knowledge and understanding of the principles of architectural design and composition. Throughout the Unit, emphasis is placed on the guiding principles of pattern, definition and manipulation of form in architectural composition. The ordering principles and organisation of forms within architectural compositions are introduced to inform the learner of established, accepted and innovative methods in the articulation and expression of form in architecture.

Outcomes

On successful completion of the Unit the learner will be able to:

1 Explain the relationships of form and function in architectural composition.
2 Explain classical features in architectural composition.
3 Produce an illustrated guide to 2D spatial arrangement in architectural composition.
4 Produce an illustrated guide to 3D massing arrangement in architectural composition.

Credit points and level

2 SQA Advanced Credits at SCQF level 7: (16 SCQF credit points at SCQF level 7)

Recommended entry to the Unit

Access to this Unit is at the discretion of the centre. Although no prior knowledge or skills are required, it would be an advantage for learners to have a strong interest in architectural design, or some existing knowledge of architectural composition and previous experience of involvement in carrying out secondary research. This may be evidenced by possession of appropriate Units at SCQF level 6 in design-based subjects such as Art, Design, Crafts or Building Technologies or by a collection of NC modules at SCQF level 5 in a related discipline such as NC Construction or NC Foundation in Design.

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the support notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

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.

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**.

SQA Advanced Unit specification: statement of standards

Unit title: Architecture: Form, Order and Composition (SCQF level 7)

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Explain the relationships of form and function in architectural composition.

Knowledge and/or skills

- architectural form
- properties of form
- architectural function
- design process
- functional imperatives in architectural form
- illustrative response

Outcome 2

Explain classical features in architectural composition.

Knowledge and/or skills

- classical architectural movements
- classical architectural periods
- classical references in modern architecture

Outcome 3

Produce an illustrated guide to 2D spatial arrangement in architectural composition.

Knowledge and/or skills

- 2-dimensional design spatial arrangement in architecture

Outcome 4

Produce an illustrated guide to 3D massing arrangement in architectural composition.

Knowledge and/or skills

- 3-dimensional arrangement in architecture

Evidence Requirements for this Unit

Outcome 1

Learners will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- describe the main elements of four properties of architectural form
- explain the relationship between architectural form and function
- explain, with illustrative examples, the resolution of two design problems led by functional criteria

Learners should be allowed to refer to relevant course material as this is an open-book assessment. All evidence must include illustrative examples detailing the design process underlying each solution. All information must be referenced.

A minimum of **one A3 illustrative sketch** should be produced for **each** of the design problems set within this Outcome.

This is an open-book task. From the introduction to the task to the submission deadline, sufficient time must be built in for the learner to carry out the necessary research to underpin the task.

Outcome 2

Learners will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- describe the key features of three key classical architectural movements or periods
- produce illustrative examples of two principal features or elements of each of these classical architectural movements or periods
- explain, using appropriate illustrative evidence from modern architecture, the influence of classical features or elements in architectural composition

In any assessment of this Outcome, **three** classical architectural movements or periods should be explained and illustrative examples sourced. Learners should be allowed to refer to relevant course material in the undertaking of the assessment.

This is an open-book task. From the introduction to the task to the submission deadline, sufficient time must be built in for the learner to carry out the necessary research to underpin the task. All information must be referenced.

Outcome 3

Learners will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- identify six of the principal characteristics of 2-dimensional spatial arrangements of forms and spaces in architectural composition
- identify at least two architectural compositions which utilise and exploit the principal characteristics identified
- produce an illustrative guide to 2D spatial arrangement in architectural composition which includes a minimum of six principal characteristics (from: point definition, line articulation, shape, orientation, proportions, fields, groups, grids, symmetry, repetition or

composition) illustrating and communicating how these are exploited in plan composition of 2D architectural design and composition

This is an open-book task. From the introduction to the task to the submission deadline, sufficient time must be built in for the learner to carry out the necessary research to underpin the task. Learners should be allowed to refer to relevant course material in the undertaking of the assessment. All information must be referenced.

Outcome 4

Learners will need to provide evidence to demonstrate their knowledge and/or skills by showing that they can:

- identify at least four 3-dimensional forms utilised in 3-dimensional architectural compositions or arrangements
- identify at least two methods by which simple 3-dimensional forms are manipulated to create more complex 3-dimensional arrangements
- identify at least two architectural compositions which utilise and exploit these 3-dimensional forms and methods
- produce an illustrative guide to 3D massing arrangement in architectural composition with specific reference to: plane definition, volume articulation, mass forms, solids and voids, mass properties and massing arrangements

This is an open-book task. From the introduction to the task to the submission deadline, sufficient time must be built in for the learner to carry out the necessary research to underpin the task. Learners should be allowed to refer to relevant course material in the undertaking of the assessment. All information must be referenced.

SQA Advanced Unit support notes

Unit title: Architecture: Form, Order and Composition (SCQF level 7)

Unit support notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 80 hours.

Guidance on the content and context for this Unit

The Unit is at SCQF level 7 and has been devised as a mandatory Unit within the SQA Advanced Certificate in Computer Aided Architectural Design and Technology. However, this does not preclude the use of the Unit in other awards where award designers feel this to be appropriate.

This Unit is designed to enable learners to understand the principles of architectural design and composition. The Unit will develop knowledge, understanding and skills in the following areas: an appreciation of the relationships of form and function in architectural composition, the influence of classical references in modern architectural composition, an introduction to both 2D arrangement (spatial) in architectural composition and 3D arrangement (massing) in architectural composition.

Throughout the Unit emphasis is placed on the guiding principles of pattern, definition and manipulation of form in architectural composition. A wide range of examples will be examined and interrogated, which will illustrate a range of concepts, features, elements and design approaches. These should inform the learner of established, accepted and innovative methods in the articulation and expression of form in architecture, and provide for a variety of investigative routes.

In designing this Unit, a range of possible topics that would be expected to be covered by lecturers has been identified. A suggested order of learning topics for each Outcome is given below.

Guidance on approaches to delivery of this Unit

Outcome 1

Explain and illustrate the relationships of form and function in architectural composition to a given brief.

In this Outcome the learner should be introduced to the fundamental definition and properties of form, particularly as they apply to architectural design, concepts and elements. Additionally, the learner may investigate the relationship between architectural expression (form) and function (of architectural elements, components, buildings and structures). The learner is expected to be able to explain these relationships and be introduced to basic design principles in the resolution of design problems led by functional criteria. The learner is expected to be able to fully grasp all these concepts and produce appropriate responses to explain them.

Learners could be set a minimum of two design tasks relative to the topic. Examples might include the design of a canopy or awning for weather protection at a building entrance, a

commemorative structure or symbol in memory of a specific event, or a simple building form with a single functional imperative such as recreation, arts or education. Learners may be allowed free expression to develop their own individual responses within agreed parameters, and produce illustrated solutions to these as freehand sketches to a given paper size.
A range of views and details may be required for each exercise, as dictated by the solution. All views and details should be annotated with supporting explanatory notes to the drawings, addressing the principal criteria from the original brief. Learners may supplement this with alternative media to support their solution, such as electronic, digital or photographic materials, or other resources, at the discretion of the individual centre. Learners may use a variety of media for freehand sketches, such as pencil, ink, charcoal, colour, pastels, etc.

Learning topics for delivery may include the following:

- properties of form:
  - geometry (point, line, plane, mass)
  - shape (simplex, complex)
  - tone (colour, texture, aesthetic, material)
  - visual Impact
  - structure
- architectural function:
  - by building type definition
  - by elemental definition
- design process:
  - analysis — synthesis — elaboration — delivery
- guidance on illustrative production:
  - freehand drawing

Outcome 2

Explain classical features in architectural composition.

In this Outcome, the learner is introduced to established historical references in architectural design, and enabled to recognise and distinguish the major classical movements. The learner is expected, through class activity and directed study, to identify and recognise the principal characteristics of classical design principles, both in ancient architectural examples, and in more modern interpretations of the same. Learners should be encouraged to identify the relationships between original classical examples and neo-classical interpretations from a variety of time periods. Learners should be able to articulate and justify the efficiency, validity and longevity of classical styles and concepts by illustrated discussion.

The assessment instrument could take the form of a structured question or set of questions concerned with the identification of principal classical characteristics from **three** selected or negotiated, established classical styles. It would be anticipated that centres use at least two from Egyptian, Greek or Roman and one other. Each explanation should be adequately supported by illustrative (electronic/digital) material for clarification purposes.

Topics covered, determining the responses required, should include the following:

- material technology in classical architecture
- social context of classical architecture
- religious context of classical architecture
- golden section and mathematical proportions of classical architecture
- decoration and symbolism of classical architecture
- classic revivalism:

- Renaissance
- Gothic Revival
- Neo-classicism
- Modern pastiche
- Oriental
- Islamic
- American

Outcome 3

Produce an illustrated guide to 2D spatial arrangement in architectural composition.

In this Outcome, the learner is introduced to the principles of 2-dimensional design in architectural composition. This is most predominantly manifested in the articulation of plan details, and these should be used as the primary source of visual reference for discussion.

Learners could be set a practical task of producing an illustrated guide to architectural composition in 2-dimensional form by means of the production (design) of an A1 size poster.

Learning topics covered, determining the responses required, should include the following:

- point definition:
  - emphasis, position
- line articulation:
  - emphasis, position, straight, radial
- plan shape:
  - rectilinear, polygonal, radial
- plan orientation:
  - to site, to sun, to landscape
- plan proportions:
  - scale, regularity, distortion
- plan fields:
  - regular, irregular
- plan groups:
  - centralised, radial, linear, hierarchical
- plan grids:
  - linear, radial
- plan symmetry:
  - bilateral, radial
- plan repetition:
  - lines, points, planes, elements
- plan composition:
  - arrangement, order, hierarchical

Outcome 4

Produce an illustrated guide to 3D massing arrangement in architectural composition.

In this Outcome, the learner is introduced to the principles of 3-dimensional design in architectural composition. A variety of 3-dimensional architectural forms should be presented for discussion, from the simple and regular to the abstract and complex. This could take the form of a practical assignment to produce a poster illustration (size A1) which effectively communicates the ideas, principles and concepts exploited in plan design arrangements. Quality submissions will be those which incorporate the ideas and concepts into the actual

layout details of the poster. This assignment is intended to inculcate a design approach solution to ideas related to design.

Topics covered, determining the responses required, should include the following:

- properties of mass forms:
  - shape, colour, texture, material, proportion, scale, impact
- simplex forms:
  - cube, cuboid, sphere, cylinder, gable
- complex forms:
  - extrusions, tapers, twists, elongation

- enclosure systems:
  - façade definition, vertical planes, vertical lines, solids and voids
- plane articulation:
  - horizontal planes, oblique plane, 'radial' planes, solids and voids
- structural articulation:
  - identification, materials, purpose
- expressionism:
  - symbolism, architectural will, stylistic reference
- mass arrangement:
  - additive, subtractive, intersective
  - use of fields and grids
  - regular, irregular

Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

Outcomes 1 and 2 are open-book tasks in conjunction with an illustrative submission. Outcomes 3 and 4 are in the form of practical assessments.

Opportunities for integration of assessment exist within the Unit, notably between Outcomes 3 and 4. As assessment opportunities are open-book, much of the evidence required in the production of the assessments could be generated by learner's own research activity out with the normal confines of the centre. It is essential, however, that the centre ensures that evidence generated is the learner's own work. During practical assessments, learners should be allowed to refer to relevant course material or previously generated evidence.

Assessment guidelines

Outcome 1

The production of the design response for this Outcome may take place in the learner's study time as well as during normal class activity.

Centres may use a range of design criteria for the assessment event, however, suggestions are provided in the support notes section of this specification.

The illustrative elements for this Outcome could predominantly be in the form of freehand, sketched solutions. However, learners may supplement this with alternative media to support their solution, such as materials, photographic, or other resources, at the discretion of the individual centre. Learners may use a variety of media for freehand sketches, such as pencil, ink, charcoal, colour, pastels, etc.

As the assessment requires elements of research, development and elaboration of design solutions, the recommended time allocation for this assessment is six hours.

Outcome 2

This is an open-book task, which could be undertaken by the learner during study time, and submitted on a pre-agreed submission date. If the assessment of this Outcome was to be a single assessment event, research should be undertaken prior to assessment and materials brought to the assessment venue. A recommended three hours could then be allowed for the production of all evidence.

Learners could be set a task of producing a simple, illustrated guide to three key classical architecture movement or periods and provide an explanation of their influence. This might involve the production of a poster, supported by electronically generated material, with supporting captions and annotations, or by a series of illustrations supported by a more formally expressed documentary, or by oral questioning and reporting techniques. The three classical movements or periods investigated by the learner may be specified by the tutor, or selected by negotiation with individual learners where a strong preference exists.

Outcome 3

This is an open-book task, which could be undertaken by the learner during study time, and submitted on a pre-agreed submission date. If the assessment of this Outcome was to be a single assessment event, research could be undertaken prior to assessment and materials brought to the assessment venue. A recommended three hours could then be allowed for the production of all evidence.

Learners could be set a practical task of producing an illustrated guide to architectural composition in 2-dimensional form by means of the production (design) of an A1 size poster.

This assessment may provide the opportunities of integration with the assessment task for Outcome 4 if the same period was used.

Outcome 4

This is an open-book task, which could be undertaken by the learner during study time, and submitted on a pre-agreed submission date. If the assessment of this Outcome was to be a single assessment event, research should be undertaken prior to assessment and materials brought to the assessment venue. A recommended three hours could then be allowed for the production of all evidence.

Learners could be set a practical task of producing an illustrated guide to architectural composition in 3-dimensional form by means of the production (design) of an A1 size poster.

This assessment may provide the opportunities of integration with the assessment task for Outcome 4.

This assessment provides for opportunities of integration with the assessment activity at Outcome 3 if the same period was the focus of this task.

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at **www.sqa.org.uk/e-assessment**.

Opportunities for developing Core and other essential skills

Learners are working in a context, which requires that they produce design work in a practical context. As learners work towards practical solutions in the delivery of the summative assessment to agreed Outcome requirements, they will naturally develop the Core Skill *Problem Solving* to SCQF level 6. Analysing and assessing the relative significance of each before identifying and justifying an appropriate strategic approach to solutions will provide opportunities to develop creative critical thinking and general *Problem Solving* skills to SCQF level 6.

Furthermore, as learners analyse a range of theoretical and practical problems and issues, taking account of historical precedent, functional requirements, as well as simple and complex articulation of pattern in architectural design, *Problem Solving* Core Skill elements will be further broadened.

Skills in developing an effective search strategy for accessing and evaluating paper-based and electronic sources of design data should be developed. This is principally concerned with the appropriate electronic interrogation of the parameters set by the Outcome requirements. The accessing, transfer and modification of retrieved information is an essential skill and support should be made available through a VLE, or similar platform. Learners will become familiar with appropriate methods, including textual, graphic and photographic, to record, reference and organise notes and ideas. In undertaking these tasks, the Core Skill of *Information and Communication Technology (ICT)* to SCQF level 6 will be developed. Learners are expected to analyse, produce and present information and materials to standards acceptable in industry, and to express essential ideas and information accurately and coherently. Such learning experiences will develop the Core Skill elements of either written or oral communication dependent upon the learner's choice of communicating information.

History of changes

Version	Description of change	Date

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of SQA Advanced qualifications.

FURTHER INFORMATION: Call SQA's Customer Contact Centre on 44 (0) 141 500 5030 or 0345 279 1000. Alternatively, complete our Centre Feedback Form.

General information for learners

Unit title: Architecture: Form, Order and Composition (SCQF level 7)

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit is designed to provide you with a solid understanding and grasp of design principles in architectural composition. It will enable you to interrogate existing examples from a variety of types of architectural forms and analyse them effectively and clearly. In addition, it will enable you to respond to design challenges for architectural composition in a positive manner, and provide you with a range of media with which to express your findings.

The content of the Unit ranges will allow you to progress and develop your understanding of concepts and elements in a logical and sequential fashion. No prior qualifications are required at the outset of this Unit, other than a strong interest in architectural design and basic secondary research ability.

The Unit is viewed as integral to your understanding of the basic principles of design. To this end, you are encouraged to supplement your class experience and learning by external visits and by becoming more aware of the built environment around you. Taking photographs, making notes and sketches, and extended research using books, journals, television and the internet are encouraged at all times.

The majority of assessment activity within the Unit is practical, illustrative, with a strong, student-led design base and includes some additional explanation of underpinning concepts.

As you will work extensively with paper-based and electronic sources of primary data, conduct research and analyse problems, as well as consider a range of techniques used in the communication of design solutions and ideas, you will have the opportunity within this Unit to develop Core Skills in *Communication*, *Problem Solving* and *Information and Communication Technology (ICT)*.