

## **SQA Advanced Unit specification**

### **General information**

**Unit title:** User Interface Design (SCQF level 7)

**Unit code:** HR9Y 47

**Superclass:** CB

**Publication date:** August 2017

**Source:** Scottish Qualifications Authority

**Version:** 01

### **Unit purpose**

This Unit is designed to introduce learners to the concepts of user interface design comprising: colour theory, font usage, graphic design principles and graphic design elements. It will enable learners to use these to ensure usability in the design of user interfaces for digital media like web, apps, games and animation.

This Unit would be suitable for learners wishing to develop their knowledge and skills in the fundamental principles of user interface design. It would be useful for anyone involved in the design or development of websites, apps, software and games.

### **Outcomes**

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

- 1 Explain colour theory, font usage, graphic design principles and elements in terms of user interface design for digital media.
- 2 Evaluate existing digital media user interface designs in terms of colour, fonts, graphic design principles and elements.
- 3 Use colour, fonts, graphic design principles and elements when designing digital media user interfaces.

### **Credit points and level**

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

### Recommended entry to the Unit

Access to this Unit will be at the discretion of the centre, however it would be beneficial if the Learner had a basic knowledge of some form of digital media like web, apps, games, animation or graphic design. This may be evidenced by the possession of the National Certificate in Computing with Digital Media or an equivalent qualification or experience.

### 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.

The Assessment Support Pack (ASP) for this Unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (<http://www.sqa.org.uk/sqa/46233.2769.html>).

### 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](http://www.sqa.org.uk/assessmentarrangements).

## **Unit specification: Statement of standards**

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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.

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. Learners 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**

Explain colour theory, font usage, graphic design principles and elements in terms of user interface design for digital media.

#### **Knowledge and/or Skills**

- ◆ Colour theory
- ◆ Fonts
- ◆ Graphic design principles
- ◆ Graphic design elements

### **Outcome 2**

Evaluate existing digital media user interface designs in terms of colour, fonts, graphic design principles and elements.

#### **Knowledge and/or Skills**

- ◆ Colour schemes
- ◆ Use of fonts
- ◆ Graphic design principles
- ◆ Graphic design elements
- ◆ Usability

### **Outcome 3**

Use colour, fonts, graphic design principles and elements when designing digital media user interfaces.

#### **Knowledge and/or Skills**

- ◆ Colour schemes
- ◆ Use of fonts
- ◆ Graphic design principles
- ◆ Graphic design elements
- ◆ Usability
- ◆ Requirements
- ◆ Design Constraints

## SQA Advanced Unit Specification

### Evidence Requirements for this Unit

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills across all Outcomes.

The evidence for this Unit may be written or oral or a combination of these. Evidence may be captured, stored and presented in a range of media (including audio and video) and formats (analogue and digital). Particular consideration should be given to digital formats and the use of multimedia.

The Evidence Requirements for this Unit will take two forms:

- 1 Evidence of cognitive competence (Knowledge and Understanding) for Outcomes 1 and 2
- 2 Evidence of practical competence (practical abilities) for Outcome 3

For Outcome 1, candidates will be required to demonstrate that they will be able to explain:

- ◆ Colour:
  - the origin of the colour wheel, monochromatic, analogous, complementary colour schemes
  - hue, saturation, shade, tint, tone, RGB, CYMK, HSB/HSL
  - colour psychology and colour symbolism/association
- ◆ Fonts:
  - serif/sans serif, decorative/ body text, contrast of fonts, alignment, kerning, leading
- ◆ Graphic design principles:
  - balance, proximity, alignment, repetition(consistency), contrast(emphasis), space-positive and negative(white space) in terms of user interface design for digital media
- ◆ Graphic design elements:
  - how lines, shapes, size and direction can be used in the design of user interfaces for digital media

Sampling is permissible when the evidence for cognitive competence is produced by a test of knowledge and understanding. The test may take any form (including oral) but must be supervised, unseen and timed. The contents of the test must sample broadly and proportionately from the contents of the knowledge domain (see above). Access to reference material is not appropriate for this type of assessment.

Where re-assessment is required it should contain a different sample from the range of mandatory content.

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For Outcome 2, the candidate will need to evaluate at least two existing digital media user interface designs, including:

- ◆ effectiveness of colour schemes
- ◆ appropriateness in the use of fonts
- ◆ use of graphic design principles — balance, proximity, alignment, repetition(consistency), contrast(emphasis), space- positive and negative(white space)
- ◆ use of graphic design elements — lines, shape, size, direction
- ◆ a report on the overall usability of the digital media user interfaces.

The candidate should be given the existing designs as well as a short design brief for each. Each design must be different and between them give the candidate the opportunity to cover all Evidence Requirements.

This assessment should be supervised and open-book.

For Outcome 3 the candidate will need to provide evidence to demonstrate that they can apply effective use of colour, fonts, graphic design principles and elements when designing user interfaces for digital media, to:

- ◆ from a given brief, produce a requirements specification that defines client requirements, end-user requirements and design constraints
- ◆ produce two user interface designs demonstrating usability, colour, fonts, graphic design principles and elements appropriate for the brief
- ◆ justify for the designs, the choices of colour, fonts, graphic design principles and elements in terms of and in relation to the client and user requirements, design constraints and usability

The assessment for this Outcome should be a practical exercise where the candidate is given a design brief. From this brief the candidate must define the client requirements, user requirements and design constraints then produce two user interface designs and justify their choices of colour, fonts, graphic design principles and elements used. The brief must be sufficient for the candidate to produce enough evidence to satisfy all of the Evidence Requirements.

Evidence for practical competence may be produced over an extended period of time under open-book conditions; but where it is generated without supervision some means of authentication must be carried out.

The Guidelines on *Approaches to Assessment* (see the Support Notes section of this specification) provides specific examples of instruments of assessment.

## **Unit Support Notes**

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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 40 hours.

### **Guidance on the content and context for this Unit**

This Unit is designed to develop the learner's knowledge and skills in the design of usable user interfaces for digital media, for example web, apps, games and animation.

Outcome 1 is designed to test the learner's knowledge and understanding of colour theory, typography and graphic design principles and elements terms of user interface design for digital media.

The purpose of Outcome 2 is to enable the learner to study and evaluate existing interfaces and gain valuable knowledge on design techniques that are effective and which ones are ineffective and to recognise strategies used in terms of colour, fonts, graphic design principles and elements.

The purpose of Outcome 3 is to allow the learner to apply the knowledge they have gained and design their own interfaces for a specific client brief.

The following topics are a focus of the three Outcomes:

Recommended **colour** topics to be covered are:

- ◆ colour terms including hue, saturation or intensity, tint, tone, shade
- ◆ colour models including RGB, CYMK, HSB
- ◆ colour schemes including monochromatic, analogous, complementary, triadic, alternate complementary, tetrad
- ◆ colour psychology, including symbolic uses of colour, colour association, cultural and emotive colour meanings
- ◆ colour contrast, colour consistency, colour behaviour
- ◆ colour perception, including how humans interpret and identify colour and make judgments
- ◆ using colour consistently

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Recommended **font/typography** topics to be covered are:

- ◆ terminology including serif, sans serif, character set, decorative and body text
- ◆ recognition of and appropriate font use including formal and informal fonts, serious and casual
- ◆ adding contrast to fonts by size, weight, form, direction, and colour
- ◆ using fonts consistently
- ◆ leading, kerning and alignment

Recommended **graphic design principle** topics to be covered are:

- ◆ balance
- ◆ proximity
- ◆ alignment
- ◆ repetition
- ◆ contrast/emphasis
- ◆ space — positive/negative — white space
- ◆ consistency
- ◆ unity
- ◆ hierarchy

Recommended graphic **design element** topics to be covered are:

- ◆ lines
- ◆ shapes
- ◆ size
- ◆ direction
- ◆ texture

Throughout the learning and teaching approach, it may be a good idea for the learner to keep a log or gallery of all the things that inspire them visually and that demonstrate effective use of colour, fonts, graphic design principles and elements. It could simply be screen dumps or use could be made of free online media storage. This can be used as a reference point and helps the learner when looking at and evaluating design.

## Guidance on approaches to delivery of this Unit

This Unit is designed to introduce learners to the concepts of colour theory, font usage, graphic design principles and elements and how to use these to ensure usability in the design of user interfaces for digital media, for example web, apps, games and animation.

The Outcomes should be taught in sequence, as each builds on the knowledge gained in the previous. At all times the learners should be encouraged to research and gain inspiration from the vast amount of sites, apps and games already in existence. They should be encouraged to question why particular colour schemes and font schemes have been used and study how graphic design principles and elements have been utilised in all sorts of digital media. The Unit has been written so that it can be delivered to learners studying various types of digital media, eg websites, applications, games, animation, etc. The assessment briefs and examples can be tailored to suit different learner groups.

It is recommended that this Unit be assessed using three separate assessments due to the building of learner's knowledge and skills throughout the delivery of the Unit. However this is not a requirement and the Unit could be assessed using integrated assessment(s).

### 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 candidates.

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

Evidence is required that candidates have achieved all Outcomes.

Candidates are encouraged to use the Internet in any research, etc however, the evidence produced must be the candidate's own words. Assessors should assure themselves of the authenticity of candidate's evidence.

Written and/or oral recorded, performance and product evidence is required which demonstrates that the candidate has achieved the requirements of all of the Outcomes to show that the candidate has appropriate knowledge and understanding of the content of this Unit.

This Unit should be assessed by three separate assessment tasks detailed as follows:

- ◆ Outcome 1 is closed-book and should take the form of an objective test where the candidate explains the concepts of colour theory, fonts, graphic design principles and elements.
- ◆ Outcome 2 is open-book and should take the form of a case study where the candidate evaluates two different digital media user interfaces and reports on the use of colour, fonts, graphic design principles and elements and their effectiveness.
- ◆ Outcome 3 is open-book and should take the form of a practical exercise where the candidate is given a brief. From the brief, they must produce a requirement specification, design and produce two digital media user interfaces and justify how they have achieved usability in terms of colour, fonts, graphic design principles and elements.

Assessors should ensure themselves of the authenticity of the candidate's evidence.

The Assessment Exemplar Pack for this Unit provides sample assessment materials including assessor checklists, practical tasks and an instrument of assessment for the knowledge. Centres wishing to develop their own assessments should refer to the Assessment Exemplar Pack to ensure a comparable standard.

### 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](http://www.sqa.org.uk/e-assessment).



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### **Opportunities for developing Core and other essential skills**

There are opportunities to develop the Core Skill of *Communication* (Written Communication) (Writing) at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

## History of changes to Unit

Version	Description of change	Date

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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: User Interface Design (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 teach you how to design user interfaces for use in the various types of digital media like web, apps, games and animation.

You will learn about colour theory including:

- ◆ what the colour wheel is and how to pick colour schemes from it
- ◆ colour psychology and colour association, which is all about how people view colour and how it affects them

You will learn about fonts (the proper name for this study is typography) including:

- ◆ which font characteristic makes them easily readable on screen
- ◆ font that are used for serious subject matter and others that are used for subject matter of a casual or fun nature
- ◆ understanding when to use different font types

You will learn how to create great interface layouts for digital media using the graphic design principles of balance, proximity, alignment, repetition (consistency), contrast (emphasis), space- positive and negative (white space) and graphic design elements — lines, shape, size and direction.

You will learn how important it is to understand who the end users of a digital media interface are before starting the actual design.

You will be encouraged to study existing digital media like websites, mobile apps, games and animations to both inspire you and help you gain valuable knowledge about what works well and what doesn't. Towards the end of the Unit you will have to put what you have learned into practice and design an interface yourself.

You may be assessed using a set of questions for the knowledge and understanding in Outcome 1. Outcome 2 could be assessed by a case study, where you would have to examine existing digital media interfaces and report on how they have used colour, fonts, graphic design principles and elements. Outcome 3 is where you get to try out what you have learned and have to produce two digital media user interfaces. Depending on what you are studying this could be two interfaces for a website, an app, game or animation.

There are opportunities to develop the Core Skill of *Communication* (Written Communication) (Writing) at SCQF level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.