

Scottish Group Award Specifications

SGA in:	Technology		
Level:	Intermediate 2	Code:	G5B1 11

Summary of requirements

SGA in Technology at Intermediate 2

National Courses and Units required*

1 National Course (4 credits) at Intermediate 2 from:
Product Design
Graphic Communication
Home Economics – Fashion and Textile Technology
Home Economics – Health and Food Technology
Home Economics – Lifestyle and Consumer Technology
Technological Studies

Details in specific section

plus

*1 National Course (4 credits) at Intermediate 2 from above list **or** from:*
Administration
Art and Design
Business Management
Chemistry
Computing
Construction Industry Practice
Hospitality: General Operations
Information Systems
Mathematics
Physics

Details in specific section

plus

8 credits at minimum of Intermediate 1

Details in open section

Total 16 credits

Core Skills required*

The above must include or cover:
5 core skills at Intermediate 1

Details in specific section

*See Important Note on page 4.

Rules for credit contribution for specific and open sections

Important Note* Achievement above the minimum requirements

The specification shows the **minimum** requirements for this SGA. Where possible, centres may wish to encourage candidates to exceed this minimum. Candidates achieving above the minimum specification will have this achievement recorded on their Scottish Qualifications Certificate. For example the following can be achieved above the minimum requirement:

- Core Skills at levels above those specified
- more National Courses and Units at Intermediate 2 instead of the credits at Intermediate 1
- National Course grades, eg grade A or B instead of grade C
- more than the required two National Courses, in which case each additional course completed counts as four credits in the open section of the specification

Hierarchies

- courses and units can be substituted by those with the same title at a higher level, eg Computer Systems (Int 2) can be substituted by Computer Systems (H) (See Section E)

Double counting

- courses and units with the same title at different levels cannot both contribute credits to the SGA, eg **either** Technological Studies (Int 2) **or** Technological Studies (H)
- courses at the same level in the same subject cannot both contribute credits to the SGA, eg **either** the National Course in Mathematics at Intermediate 2 **or** Standard Grade Mathematics at Credit Level (See Section F)
- same course with different grades cannot both contribute credits to the SGA, eg **either** Graphic Communication (Int 2) at grade A **or** Graphic Communication (Int 2) at grade C
- same course or unit cannot contribute credit to both the specific and open sections of an SGA

National Course awards at Grade D

National Course awards at Grade D can contribute to the SGA in the following ways:

- in place of the specified Intermediate 2 Course, a grade D at Higher (or above) in the Course of the same title can contribute 4 credits to the specific section
- a grade D at Intermediate 2 (or above) can contribute 4 credits to the open section.

Note - The former compensatory course awards (fallbacks) can also contribute to the SGA:

- in place of the specified Intermediate 2 Course, a compensatory award for the Course of the same title taken at Higher (ie awarded at Intermediate 2) can contribute 4 credits to the specific section
- a compensatory award for a course taken at Intermediate 2 (ie awarded at Intermediate 1) can contribute 4 credits to the open section.

Specific section

A

This section specifies: mandatory courses, mandatory units, mandatory combinations of courses and/or units, mandatory core skill requirements and optional courses and units.

Course/unit no	Course/unit title	Credits
Plus one National Course from above list or from:		
C211 11	Product Design (Int 2)	4
C116 11	Home Economics – Fashion and Textile Technology (Int 2)	4
C033 11	Graphic Communication (Int 2)	4
C118 11	Home Economics – Health and Food Technology (Int 2)	4
C117 11	Home Economics – Lifestyle and Consumer Technology (Int 2)	4
C036 11	Technological Studies (Int 2)	4
C002 11	Administration (Int 2)	4
C003 11	Art and Design (Int 2)	4
C010 11	Business Management (Int 2)	4
C012 11	Chemistry (Int 2)	4
C206 11	Computing (Int 2)	4
C01N 11	Construction Industry Practice (Int 2)	4
C049 11	Hospitality: General Operations (Int 2)	4
C054 11	Information Systems (Int 2)	4
C100 11	Mathematics: Maths 1, 2 and 3 (Int 2)	4
C101 11	Mathematics: Maths 1, 2 and Applications (Int 2)	4
C069 11	Physics (Int 2)	4

Total credits required: 8

** Core skills requirement

Communication at Intermediate 1
Numeracy at Intermediate 1
Information Technology at Intermediate 1
Problem Solving at Intermediate 1
Working with Others at Intermediate 1

** See Section D for core skills details.

Note: Candidates may substitute designated Standard Grades at Credit Level for National Courses at Intermediate 2 in this section. (See Section F)

Open section

B

8 credits at minimum of Intermediate 1 are required to complete this SGA. These can be chosen from either one or both of the following sections:

- Open section (any qualification listed below)
- Specific section (units and courses not already chosen)

The 8 credits may be made up from any of the following. Each has a fixed credit value for the purposes of this SGA.

Qualifications	Credit
National Units at Intermediate 1 or above	each typically 1
National Courses at Intermediate 1 or above	each 4
Standard Grades at General Level contribute credits at <i>Intermediate 1</i> *	each 4
Standard Grades at Credit Level contribute credits at <i>Intermediate 2</i> *	each 4
Free-standing core skills units (if required to complete the core skills requirement)	each 1
Relevant SVQs at Level 1 in the following occupational areas contribute credits at <i>Intermediate 1</i> : 004 (Engineering) 005 (Manufacturing) 009 (Providing Business Services)	max 8
Relevant SVQs at Level 2 in the following occupational areas contribute credits at <i>Intermediate 2</i> : 004 (Engineering) 005 (Manufacturing) 009 (Providing Business Services)	max 8

*If achieved prior to 1994 please contact SQA Helpdesk ☎ 0141 242 2214.

Note: There are many ways in which the 8 credits at Intermediate 1 can be achieved and the following sections are provided for your information.

Open section: Qualifications which can contribute credits to this group award.

Programme advice: Guidance on possible combinations of units and courses which candidates might choose in order to gain the required credits.

Centres and candidates should agree the most appropriate way of gaining the required credits to meet each candidate's individual needs.

Rules for credit contribution for specific and open sections

Important Note* Achievement above the minimum requirements

The specification shows the **minimum** requirements for this SGA. Where possible, centres may wish to encourage candidates to exceed this minimum. Candidates achieving above the minimum specification will have this achievement recorded on their Scottish Qualifications Certificate. For example the following can be achieved above the minimum requirement:

- Core Skills at levels above those specified
- more National Courses and Units at Intermediate 2 instead of the credits at Intermediate 1
- National Course grades, eg grade A or B instead of grade C
- more than the required two National Courses, in which case each additional course completed counts as four credits in the open section of the specification

Hierarchies

- courses and units can be substituted by those with the same title at a higher level, eg Computer Systems (Int 2) can be substituted by Computer Systems (H) (See Section E)

Double counting

- courses and units with the same title at different levels cannot both contribute credits to the SGA, eg **either** Technological Studies (Int 2) **or** Technological Studies (H)
- courses at the same level in the same subject cannot both contribute credits to the SGA, eg **either** the National Course in Mathematics at Intermediate 2 **or** Standard Grade Mathematics at Credit Level (See Section F)
- same course with different grades cannot both contribute credits to the SGA, eg **either** Graphic Communication (Int 2) at grade A **or** Graphic Communication (Int 2) at grade C
- same course or unit cannot contribute credit to both the specific and open sections of an SGA

Note: Advice on making up programmes of credit from the open section follows in Section C.

National Course awards at Grade D

National Course awards at Grade D can contribute to the SGA in the following ways:

- in place of the specified Intermediate 2 Course, a grade D at Higher (or above) in the Course of the same title can contribute 4 credits to the specific section
- a grade D at Intermediate 2 (or above) can contribute 4 credits to the open section.

Note - The former compensatory course awards (fallbacks) can also contribute to the SGA:

- in place of the specified Intermediate 2 Course, a compensatory award for the Course of the same title taken at Higher (ie awarded at Intermediate 2) can contribute 4 credits to the specific section
- a compensatory award for a course taken at Intermediate 2 (ie awarded at Intermediate 1) can contribute 4 credits to the open section.

Candidates having met the requirements of the specific section need to achieve a further 8 credits at a minimum of Intermediate 1. The general rules are defined in Section B.

A wide choice is available to meet the 8 credits. Centres should consider individual candidate needs, eg for further specialist work within the title area of the SGA or for broadening beyond the SGA title area.

Advice has been developed in the following section on possible groupings of units and courses. This might be useful in the selection of programmes to meet individual candidates' career and progression needs in technology. The groupings are not exhaustive. Centres and candidates can choose other provision from SQA's range of qualifications to build up a coherent programme.

Candidates can make up the 8 credits by selecting courses and/or units from a range of these groupings or by selecting courses and/or units from an individual grouping according to their needs.

Please note the rules on hierarchical substitution and double-counting listed in Section B when finalising individual candidate SGA programmes.

*Mandatory unit of a course. †Optional unit of a course. All other units are free-standing National Units. [] Bracketed numbers indicate the former coding for these unrevised National Units.

Course/unit no	Course/unit title	Credits
Administration		
Course:		
C002 10	Administration (Int 1)	4
Component units of course:		
D007 10	*Administrative Support (Int 1)	1
D008 10	*Information Technology: Office Applications (Int 1)	1
D009 10	*Word Processing 1 (Int 1)	1
Art and Design		
Course:		
C003 10	Art and Design (Int 1)	4
Component units of course:		
D014 10	*Art and Design Studies (Int 1)	1
D015 10	*Design Activity (Int 1)	1
D016 10	*Expressive Activity (Int 1)	1
Biology		
Courses:		
C007 11	Biology (Int 2)	4
C007 10	Biology (Int 1)	4
Component units of courses:		
D028 11	*Animal Physiology (Int 2)	1
D027 11	*Environmental Biology and Genetics (Int 2)	1
D026 11	*Living Cells (Int 2)	1

Course/unit no	Course/unit title	Credits
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Component units of course continued:

D024 10	*Biotechnological Industries (Int 1)	1
D025 10	*Growing Plants (Int 1)	1
D023 10	*Health and Technology (Int 1)	1

Biotechnology

Course:

C008 11	Biotechnology (Int 2)	4
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Component units of course:

DF5F 11	The Biology of Microorganisms (Int 2)	1
D039 11	Working with Microorganisms (Int 2)	1
DF5G 11	Biotechnology Processes (Int 2)	1

Business Management

Course:

C010 10	Business Management (Int 1)	4
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Component units of course:

D047 10	*Business Activities (Int 1)	1
D046 10	*Business in Society (Int 1)	1
D048 10	*Information in Business (Int 1)	1

Chemistry

Course:

C012 10	Chemistry (Int 1)	4
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Component units of course:

D065 10	*Chemistry and Life (Int 1)	1
D063 10	*Chemistry in Action (Int 1)	1
D064 10	*Everyday Chemistry (Int 1)	1

Computing

Course:

C207 10	Computing Studies (Int 1)	4
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Component units of course:

DF33 10	Computer Applications (Int 1)	1
DF34 10	Multimedia Applications (Int 1)	1
DF37 10	Computers and the Internet (Int 1)	1
DF36 10	Information and the Internet (Int 1)	1

Course/unit no	Course/unit title	Credits
Geology		
Courses:		
C043 11	Geology (Int 2)	4
C043 10	Geology (Int 1)	4
Component units of courses:		
D247 11	Earth Physics and Earth Movements (Int 2)	1
D8XL 11	History of the Earth (Int 2)	1
D243 10	Geology: The Study of the Earth (Int 1)	1
D244 10	Geology and Scenery (Int 1)	1
D245 10	Geology, People and Environment (Int 1)	1
D8XK 11	Minerals and Rocks (Int 2)	1
Home Economics		
Course:		
C118 10	Home Economics – Health and Food Technology (Int 1)	4
Component units of course:		
D9NT 10	Food for Health (Int 1)	1
D9NV 10	Food Product Development (Int 1)	1
D9NW 10	Food Technology (Int 1)	1
Course:		
C116 10	Home Economics – Fashion and Textile Technology (Int 1)	4
Component units of course:		
D273 10	Developing Craft Skills in Textiles (Int 1)	1
D275 10	Design and Make (Home Economics) (Int 1)	1
D491 10	Organisation of Practical Skills (Int 1)	0.5
D274 10	Practical Fabric Skills (Int 1)	1
D04Y 10	Technology in Home Economics (Int 1)	1
D272 10	The Fashion and Clothing Industry: An Introduction (Int 1)	0.5
Course:		
C117 10	Home Economics – Lifestyle and Consumer Technology (Int 1)	4
Component units of course:		
D04X 10	Design and Make (Home Economics) (Int 1)	1
D04W 10	Food Preparation for Healthy Eating (Int 1)	0.5
D277 10	Health and Safety for Babies and Young Children (Int 1)	0.5
D497 10	Organisation of Practical Skills (Int 1)	0.5
D276 10	Preparation for Parenthood (Int 1)	0.5
D278 10	The Pre-School Child: Food, Clothing and Play (Int 1)	1

Course/unit no	Course/unit title	Credits
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Hospitality – Practical Cookery

Course:

C201 11	Hospitality – Practical Cookery (Int 2)	4
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Component units of course:

D286 11	Foods of the World (Int 2)	1
D262 11	Food Preparation for Healthy Eating (Int 2)	1
D9NM 11	Practical Cookery Skills for the Hospitality Industry (Int 2)	1

Information Systems

Course:

C054 11	Information Systems (Int 2)	4
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Component units of course:

D300 11	Applications of IT in Society (Int 2)	1
D094 11	Computer Application Software (Int 2)	1
D299 11	Database Systems (Int 2)	1
D301 11	Multimedia (Int 2)	1
D096 11	The Internet (Int 2)	1

Managing Environmental Resources

Courses:

C055 11	Managing Environmental Resources (Int 2)	4
C055 10	Managing Environmental Resources (Int 1)	4

Component units of courses:

D310 11	Ecosystems (Int 2)	1
D309 10	Environmental Issues (Int 1)	1
D310 10	Ecosystems (Int 1)	1
D311 10	Land Use (Int 1)	1
D314 11	Local Environment (Int 2)	1
D312 11	Natural Resource Use (Int 2)	1

Marketing and Enterprise

Free-standing National Units:

D36N 11	Enterprise Activity (Int 2)	1
D0XP 11	Marketing Basic Principles (Int 2) [6260006]	1
D0XT 11	Marketing Research Principles (Int 2) [6260036]	1

Course/unit no	Course/unit title	Credits
Mathematics		
Courses:		
C100 10	Mathematics: Maths 1, 2 and 3 (Int 1)	4
C101 10	Mathematics: Maths 1, 2 and Applications (Int 1)	4
Component units of courses:		
D324 10	Applications of Mathematics (Int 1)	1
D321 10	Mathematics 1 (Int 1)	1
D322 10	Mathematics 2 (Int 1)	1
D323 10	Mathematics 3 (Int 1)	1
Free-standing National Units:		
D11W 11	Mathematics: Analysis/Algebra 1 (Int 2) [7180401]	1
D0N0 11	Mathematics: Craft Technology 1 (Int 2) [91045]	0.5
D0N1 11	Mathematics: Craft Technology 2 (Int 2) [91046]	0.5
D11V 11	Core Mathematics 4 (Int 2) [7180331]	1
D11T 10	Core Mathematics 3 (Int 1) [7180321]	1
Physics		
Course:		
C069 10	Physics (Int 1)	4
Component units of course:		
D378 10	*Electronics (Int 1)	0.5
D377 10	*Movement (Int 1)	0.5
D374 10	*Practical Electricity (Int 1)	0.5
D375 10	*Radiations (Int 1)	0.5
D376 10	*Sound and Music (Int 1)	0.5
D373 10	*Telecommunications (Int 1)	0.5
Practical Craft Skills		
Course:		
C034 10	Engineering Craft Skills (Int 1)	4
Component units of course:		
D178 10	*Bench Skills: Metal (Int 1)	1
D180 10	†Fabrication and Welding (Int 1)	1
D179 10	*Machine Processes: Metal (Int 1)	1
D181 10	†Practical Electronics (Int 1)	1
Course:		
C035 10	Woodworking Skills (Int 1)	4
Component units of course:		
D182 10	*Bench Skills 1 – Wood Flat Frame Construction (Int 1)	1
D183 10	*Bench Skills 2 – Wood Carcass Construction (Int 1)	1
D184 10	*Machining and Finishing – Wood (Int 1)	1

Course/unit no	Course/unit title	Credits
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Work Experience

Free-standing National Unit:

D36H 10	Work Experience (Int 1)	1
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Core Skills

Free-standing National Units:

D01B 10	Communication (Int 1)	1
D01D 10	Information Technology (Int 1)	1
D01C 10	Numeracy (Int 1)	1
D01E 10	Problem Solving (Int 1)	1
D01F 10	Working with Others (Int 1)	1

Candidates who have not achieved these core skills in other ways must select the required core skills units. See Section D for further information.

One or more core skills in this SGA may be automatically certificated through courses and units in the specific section. Where this is the case, the corresponding core skill unit in the open section cannot be counted towards the SGA.

Core skills

D

To achieve this SGA, all candidates **must achieve** the following core skills:

Core skill	Level
Communication	Intermediate 1
Numeracy	Intermediate 1
Information Technology	Intermediate 1
Problem Solving	Intermediate 1
Working with Others	Intermediate 1

Candidates can achieve core skills:

- through Standard Grades or other units which give automatic certification of core skills, eg a candidate who has completed Standard Grade English and Mathematics at General Level is given automatic certification of Communication and Numeracy at Intermediate 1
- by selecting from the group award units and courses which give automatic certification of core skills, eg the Technological Studies course gives automatic certification of Problem Solving and Numeracy at Intermediate 2 and Information Technology at Intermediate 1
- by selecting dedicated core skills units in the open section of the SGA

Candidates' current level of achievement in core skills is shown on the Scottish Qualifications Certificate in the form of a profile. This shows achievement against each of the core skills *components*. Where a core skill has more than one component, the candidate needs to achieve each component at the level specified for the SGA. For example, if an SGA requires Communication at Intermediate 1, a candidate whose profile shows Written Communication at Intermediate 1 and Oral Communication at Access 3 would not meet the requirement and would have to improve in Oral Communication.

Details of all courses which give automatic certification of core skills is published in the *Catalogue of Core Skills in National Qualifications* (SQA, 2001/2002).

Hierarchical sequences

E

The SQA numbering system for qualifications consists of a 4 + 2 reference code.

The qualifications in a hierarchical sequence have the same title and are available at more than one level. They are identified by their reference code having the same first four digits, eg, D36H in the example below. The last two digits are unique to each level of qualification, eg 12 equates to Higher, 11 equates to Intermediate 2.

Units

The following is an example of a hierarchical sequence of units:

D36H 10	Work Experience (Int 1)
D36H 11	Work Experience (Int 2)
D36H 12	Work Experience (H)

Where units which are part of hierarchical sequences are specified, candidates who achieve a unit at a higher level than the one specified can use the upper level unit to count as credit towards the group award. For example, Work Experience (H) can be counted instead of Work Experience (Int 2)

Candidates can only use one of these units to count as credit towards the group award.

In the case of unrevised National Certificate Modules, ie units which retain their original number, there are hierarchies where the title is the same and the number is different. Details of these exceptions will be published in a separate document. The pattern for these hierarchies is the same as that previously established for GSVQs.

There are also some hierarchies where the titles and numbers of the units at different levels are different. In this specification, if there are two units at different levels with heavily overlapping content, only one of these units should be used to count as credit towards the group award. Details of these exceptions will be published in a separate document.

Courses

The following is an example of a hierarchical sequence of courses:

C003 10	Art and Design (Int 1)
C003 11	Art and Design (Int 2)
C003 12	Art and Design (H)

In the SGA specification, where courses which belong to hierarchical sequences are specified, candidates who achieve a course at a higher level than the one specified can use the upper level course to count as credit towards the group award. For example, Art and Design (H) can be counted instead of Art and Design (Int 2).

Candidates can only use one of these courses to count as credit towards the group award - a maximum of 4 credits.

Standard Grades

F

Designated Standard Grades at Credit Level can contribute 4 credits each to the SGA in place of corresponding National Courses in the *specific section*.

The designated Standard Grades and their corresponding National Courses, either of which can contribute to this SGA, are as follows:

Standard Grade

National Course

Art and Design at Credit Level	Art and Design (Int 2)
Business Management at Credit Level	Business Management (Int 2)
Chemistry at Credit Level	Chemistry (Int 2)
Computing Studies at Credit Level	Computing (Int 2)
Craft and Design at Credit Level	Craft and Design (Int 2)
Graphic Communication at Credit Level	Graphic Communication (Int 2)
Home Economics at Credit Level	Home Economics – Health and Food Technology (Int 2)
Mathematics at Credit Level	Mathematics (Int 2)
Office and Information Studies at Credit Level	Administration (Int 2)
Physics at Credit Level	Physics (Int 2)
Technological Studies at Credit Level	Technological Studies (Int 2)

Note: Any Standard Grade at General or Credit Level can contribute 4 credits to the *open section*.

Relevant Scottish Vocational Qualifications (SVQs) from occupational areas 002 (Extracting), 004 (Engineering), 005 (Manufacturing) and 009 (Providing Business Services) can each contribute up to eight credits to the open section of the SGA.

SVQs at Level 2 contribute credits at Intermediate 2.

SVQs at Level 1 contribute credits at Intermediate 1.

The following are **examples** of relevant SVQs.

Code no	Relevant SVQs	Level
002 Extracting		
G5Y2 22	Well Services: Tubing Operations	2
G5Y4 22	Well Services: Electric Logging (Open Hole Services)	2
004 Engineering		
G36L 22	Electronical and Electronics Servicing	2
005 Manufacturing		
G5SP 22	Food and Drink Manufacturing Operations	2
G5SR 21	Food and Drink Manufacturing Operations	1
G388 22	Manufacturing Textiles	2
G2V9 21	Manufacturing Textiles	1
G37T 22	Paper Manufacturing	2
G38P 22	Process Operations: Chemical and Pharmaceutical	2
G2VK 21	Process Operations: Chemical and Pharmaceutical	1
G38X 22	Process Manufacture: Chemicals	2
009 Providing Business Services		
G5W5 22	Administration	2
G5W4 21	Administration	1
G5F0 22	Using IT	2
G5F0 21	Using IT	1

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