Oxford Cambridge and RSA Examinations

RECOGNISING ACHIEVEMENT

OCR AS GCE in Geography B (3833)

OCR Advanced GCE in Geography B (7833)

Approved Specifications – Revised Edition

First Advanced Subsidiary GCE certification was 2001 QAN (3833) 100/0608/4
First Advanced GCE certification was 2002 QAN (7833) 100/0436/1

Foreword to Revised Edition

This Revised Edition has been produced to consolidate earlier revisions to these specifications and any changes contained within have previously been detailed in notices to centres. **There is no change to the structure or teaching content of the specification and most differences are cosmetic**. Sidelining will be used to indicate any significant changes.

The main changes are:

Re-sits of Units – The restrictions on re-sitting units have been removed, enabling candidates to re-take units more than once (for details see page 19).

Unit Availability - A2 Unit 2692 is no longer available in the January session but is still available in the June session (for details see page 18).

Unit 2689 – Although no specific duration is stated for this AS unit, centres should note that most candidates will need about an hour to complete the paper. Candidates answer on the question paper; no additional paper is allowed.

Unit 2692 – The duration for this paper is now 2 hours (changed from 1hour 30 minutes).

Foreword (continued)

This booklet contains OCR's Advanced Subsidiary GCE (AS) and Advanced GCE (A level) Geography B specifications for teaching from September 2004.

The AS GCE is assessed at a standard appropriate for candidates who have completed the first year of study of a two year Advanced GCE course, i.e. between GCSE and Advanced GCE. It forms the first half of the Advanced GCE course in terms of teaching time and content. When combined with the second half of the Advanced GCE course, known as 'A2', the AS forms 50% of the assessment of the total Advanced GCE. However, the AS can be taken as a 'stand-alone' qualification. A2 is weighted at 50% of the total assessment of the Advanced GCE.

In these specifications the term **module** is used to describe specific teaching and learning requirements. The term **unit** describes a unit of assessment.

Each teaching and learning module is assessed by its associated unit of assessment.

These specifications meet the requirements of the Common Criteria (Qualifications and Curriculum Authority, 1999), the GCE AS and Advanced Level Qualification-Specific Criteria (QCA, 1999) and the relevant Subject Criteria (QCA, 1999).

Contents

Specification Summary

Outline

The OCR AS GCE Geography B specification provides both a coherent course in geography and a foundation for further study at A2. The AS modules are designed to promote an understanding of physical and human geography through a study of environments and the consequent human responses and issues.

The A2 modules include opportunities for candidates to study selected aspects of physical and human geography in greater depth, and to draw upon their geographical abilities to analyse issues in sustainable development towards the end of their Advanced GCE course.

An investigative approach is encouraged through the presentation of the content of the modules and the inclusion of Geographical Investigations modules at both AS and A2.

Specification Content

The three AS modules are designed to provide a coherent course in geography and to form a basis for study at A2 to complete the Advanced GCE.

Modules 2687 and 2688 are each composed of three study sub-modules which together provide a foundation in physical and human geography and the management of physical and human systems.

Module 2689 provides for geographical investigations undertaken into aspects of Modules 2687 and 2688.

The three A2 modules provide for further study in depth.

Module 2690 requires personal investigative work based on either fieldwork or the use of Information and Communications Technology, and the production of a report.

Module 2691 includes options in both physical and human geography.

In Module 2692, issues in sustainable development provide a basis for synthesising candidates' geographical understanding in a relevant context.

Scheme of Assessment

The AS GCE forms 50% of the assessment weighting of the full Advanced GCE. AS GCE is assessed at a standard between GCSE and Advanced GCE and can be taken as a stand-alone qualification or as the first part of the full Advanced GCE course.

Assessment is by means of **3 Units of Assessment** for AS GCE and **6 Units of Assessment** for Advanced GCE.

Candidates must take the following combination of units:	
AS GCE	Units 2687, 2688 **and** 2689.
Advanced GCE	Units 2687, 2688, 2689, 2690, 2691 **and** 2692.

Units of assessment

Unit	Level	Name	Duration	Mode of Assessment	Weighting	
					AS	Advanced GCE
2687	AS	Physical Systems and their Management	1 hour 30 mins	Written Examination	30%	15%
2688	AS	Human Systems and their Management	1 hour 30 mins	Written Examination	30%	15%
2689	AS	Geographical Investigations 1	-	External Assignment	40%	20%
2690	A2	Geographical Investigations 2	-	Coursework	-	15%
2691	A2	Issues in the Environment	2 hours	Written Examination	-	15%
2692	A2	Issues in Sustainable Development	2 hours	Written Examination	-	20%

Question Paper requirements

AS GCE

Physical Systems and their Management (Unit 2687) and Human Systems and their Management (Unit 2688) question papers have two sections, A and B. Section A consists of three structured questions from which two are chosen, and Section B consists of two concise essay questions from which one must be chosen.

The Geographical Investigations 1 (Unit 2689) External Assignment has two sections. Section A consists of a 1500 word report on a coursework investigation. Section B consists of concise essay questions, where candidates are required to answer one out of three questions which refer to the 1500 word report, together with one data handling task.

A2

For Issues in the Environment (Unit 2691), candidates must select one option from a list of physical options and one from a list of human options. Each option will have two essay-type questions. The first question will be based on stimulus material while there will be some choice within the second question.

The Issues in Sustainable Development (Unit 2692) question paper is based on pre-released data on a selected issue and contains a variable number of compulsory questions and tasks.

Coursework Requirements

A2

Candidates are required to submit a 2500 word report on a directed task for Geographical Investigations 2 (Unit 2690). The investigation must be based either on fieldwork for the collection of data or on the use of Information and Communications Technology for the collection, processing and presentation of data. The investigation is marked by teachers, internally standardised by the Centre and externally moderated by OCR.

Overlap with other qualifications

Details are given in section 1.3.

1 Introduction

These OCR specifications lead to AS GCE and Advanced GCE qualifications in Geography. Candidates take three modules for AS and a further three for A2. AS and A2 combined constitute the full Advanced GCE specification.

The specifications have been designed for candidates who have a prior knowledge of the subject acquired normally through the successful completion of a GCSE Geography course at grade C or above, or the achievement of at least Level 7 at Key Stage Three in National Curriculum Geography. Other candidates may enrol at the discretion of the centre.

The specifications are designed to encourage the development of an investigative approach to geography through the study of places and environments. They focus on the processes which shape environments, their spatial outcomes, and the issues which arise from the interaction between people and environments. They examine different strategies and policies for managing environments and for achieving sustainable development.

Whilst conforming to the requirements of the Subject Criteria for Geography, these specifications have a number of distinctive features in terms of their content, assessment and the support offered by OCR. These features include:

- an approach to the subject which builds upon the knowledge, understanding and skills developed by candidates who have followed GCSE specifications in geography, especially those who have followed project-based specifications, including the OCR Avery Hill and Bristol Projects;
- an issues analysis approach to the content;
- an emphasis on the relevance of geography to contemporary issues;
- planned progression through the modules to facilitate the development of both geographical and general abilities;
- a variety of assessment techniques;
- an emphasis on the key skills, in particular opportunities to develop Information and Communication Technology skills.

1.1 Certification Title

These specifications will be shown on a certificate as

- OCR Advanced Subsidiary GCE in Geography.
- OCR Advanced GCE in Geography.

1.2 Language

These specifications and associated assessment materials are available in English only.

1.3 Overlap with other qualifications

These specifications offer an opportunity to overlap with other AS GCE, Advanced GCE and VCE specifications

AS GCE/Advanced GCE in Science

- Module 2841, Science and the Natural Environment
- Module 2842, Science and Human Activity
- Module 2844, Science and Environmental Management
- Module 2846, Component 01, Science and Global Processes

AS GCE/Advanced GCE in Geology

- Module 2832, The Rock Cycle – Processes and Products
- Module 2833, Component 01, Economic and Environmental Geology

VCE in Travel and Tourism

- Unit 7465, Investigating travel and tourism
- Unit 7466, Tourism development
- Unit 7467, World-wide travel destinations
- Unit 7468, Marketing in travel and tourism
- Unit 7475, Tourist and visitor attractions
- Unit 7485, Countryside recreation
- Unit 7486, Outdoor adventure activities

1.4 Exclusions

Candidates who enter for this AS GCE specification may **not** also enter for any other AS GCE specification with the certification title **Geography** in the same examination session.

Candidates who enter for this Advanced GCE specification may **not** also enter for any other Advanced GCE specification with the certification title **Geography** in the same examination series.

Every specification is assigned to a national classification code indicating the subject area to which it belongs.

Centres should be aware that candidates who enter for more than one GCE qualification with the same classification code will have only one grade (the highest) counted for the purpose of the School and College Performance Tables.

The classification code for this specification is 3910.

1.5 Code of Practice requirements

These specifications will comply in all respects with the 2004 revised Code of Practice.

2 Specification Aims

These specifications aim to present an exciting and relevant course of study for candidates, whether as a foundation for further study in geography or as a contribution to their knowledge and understanding of the world in which they live. They address the elements and processes which are specific to geography and their relevance to contemporary problems and issues. The specifications are based on an investigative approach to the study of places, environments, themes, and the issues which arise from the interaction between people and their environments.

The aims of these AS GCE and Advanced GCE specifications are to encourage candidates to:

- appreciate the nature of geography as an academic discipline and, through its study, find a sense of personal fulfilment and an informed concern about the quality of the environment
- acquire and apply knowledge and understanding of physical and human processes, their interactions and outcomes over space and time, through the study of places and environments
- acquire and apply the skills necessary for pursuit of the discipline through an investigative approach
- develop an understanding of the inter-relationships between people and their environments, and of the opportunities, challenges and constraints which face people in different places and environments
- understand and respond sensitively to the values, needs and concerns of different communities, and to inequalities, including those influenced by cultural and ethnic differences
- understand how decisions are made about the use and management of resources and environments and to understand the relevance and effects of people's values and attitudes to the identification and resolution of geographical issues
- clarify and develop their own values and attitudes in relation to contemporary issues and questions
- appreciate the dynamic nature of geography: how places, environments and issues change, and people's responses to these changes
- develop an awareness that geographical studies may involve explanations which are partial, tentative and incomplete
- appreciate that changes in geographical ideas and methods may give rise to different interpretations
- develop the key skills of Communication, Application of Number and Information Technology
- benefit from opportunities to acquire the wider key skills of Working with Others, Improving Own Learning and Performance, and Problem Solving.

2.1 Spiritual, Moral, Ethical, Social and Cultural Issues

These specifications provide opportunities for candidates to develop their spiritual, moral, ethical, social and cultural understanding. With prompting and guidance in appropriate settings, it is possible for candidates following these specifications to:

- experience a sense of awe and wonder through contact with the natural world and human achievements in a variety of settings;
- explore the religious beliefs and creative abilities and values of individuals, groups and communities and thus recognise their own worth and role within society;
- discuss the moral values and attitudes associated with global disparities in quality of life and the use of the Earth's resources in a sustainable way;
- consider the morality of everyday decisions which have a geographical dimension.

The investigative approach of the specifications, and the emphasis on issues with a geographical dimension should ensure that these opportunities will underpin much of the teaching and learning.

Through the mandatory field work requirements (Module 2689), and the other opportunities for working in the natural and human environments, candidates should not only develop a sense of awe and wonder but also a curiosity about the processes which underlie them. Through the choice of a particular option in Module 2690, individual candidates could have direct experience of a range of environments and communities.

The emphasis on issues arising from the interaction between people and their environment in Modules 2687, 2688 and 2691 provides many opportunities to explore the impact of beliefs and values on communities and society.

The content, especially of Modules 2691 and 2692, provides opportunities to explore the values and attitudes which underpin disparities in quality of life, and in the use of the Earth’s resources both locally and globally.

Studies of the management of environments in Modules 2687 and 2688, and the use of the Earth’s resources in Module 2692 should involve a consideration of the morality of any decisions made about them and of any solutions suggested by the candidates themselves.

2.2 Environmental Education

The subject content of the specifications, both at AS and in A2, is intended to support the development of Environmental Education, especially in relation to Sustainable Development. Candidates have opportunities to develop field work skills by working in the environment. They come to understand environmental systems and the impact on them of human activity. Through studying the issues that arise from the interaction of people and their environment they develop informed opinions and a concern for the future use of the Earth’s resources.

2.3 European Dimension

The requirements within the specifications to study geographical problems and issues through reference to examples drawn from individual member states within the European Union (EU) are intended to give support to the European Dimension in Education. The scale and place requirements indicate where EU studies must be undertaken, and also provide opportunities for Centres to incorporate additional case studies where there is scope for choice.

2.4 Citizenship

The subject content of the specifications, both at AS and in A2, is intended to support the development of Citizenship, especially through the analysis of current environmental, social, economic and political issues and the way decisions are made about them. Candidates become increasingly aware of the role of the individual in the decision-making process and thus the way in which they can be an active member of the community and of society.

2.5 Health and Safety Issues

There are opportunities within modules concerned with the management of rural and urban environments and resource systems to consider health and safety issues within and beyond the UK. The investigative work undertaken as part of Modules 2689 and 2690 provides opportunities for risk assessment and management by groups and individuals.

2.6 Avoidance of Bias

OCR has taken great care in the preparation of these specifications and assessment materials to avoid bias of any kind.

3 Assessment Objectives

These AS GCE and Advanced GCE specifications require that candidates demonstrate the following assessment objectives in the context of the content and skills prescribed:

AO1 show knowledge of the specified content;

AO2 show understanding of the specified content;

AO3 apply knowledge and critical understanding to unfamiliar contexts;

AO4 select and use a variety of skills and techniques, including communication skills, appropriate to geographical studies.

The following statements indicate the knowledge, understanding and application and skills which are assessed within the context of the subject content of the specifications.

Knowledge

Candidates should demonstrate the ability to recall accurately:

(i) the location and geographical characteristics of selected places and environments, their external relationships and how they are changing;

(ii) the physical and human processes responsible for the development of the characteristics of the selected places and environments, the interaction and relative importance of these processes;

(iii) the interaction of people and their environments in space and over time;

(iv) geographical ideas, concepts, principles and theories;

(v) relevant geographical terminology;

(vi) sources of geographical information.

Understanding and Application

Candidates should demonstrate an understanding of:

(i) the nature of and interactions between the selected physical and human environments;

(ii) how physical and human processes bring about changes in spatial systems, distributions, places and environments;

(iii) the distinctiveness and interdependence of the selected places and environments;

(iv) the significance of both spatial and temporal scales;

(v) the role of values and attitudes in decision making about the use and management of resources and environments;

(vi) the potential and limitations of evidence, concepts and theories used by geographers;

(vii) how geographical concepts, principles and theories can be applied to new contexts and issues;

and, for candidates following the A2 section of the specification:

(viii) the connections between the different elements of geography.

Skills

Candidates, in the context of the specification content, should demonstrate the ability to:

(i) plan investigations into geographical issues by identifying appropriate questions, selecting methods and techniques and establishing effective approaches to enquiry in their geographical studies;

(ii) collect, select and record a variety of quantitative and qualitative evidence through field work and from other primary and secondary sources, including maps at a variety of scales, photographs, statistical data, geographical literature, remote sensing imagery, and geographical information systems;

(iii) organise, present and communicate evidence in a variety of forms including maps and diagrams, making use of information and communication technology where appropriate as in Module 2690 (Information and Communication Technology option);

(iv) analyse, interpret, evaluate and draw conclusions from evidence, including through the use of Information and Communication Technology as in Module 2690 (Information and Communication Technology option);

(v) critically evaluate the methods and techniques of enquiry, the limitations of evidence and the conclusions drawn use appropriate subject specific terminology; and in relation to the Key Skill of Communication;

(vi) select and read appropriate materials;

(vii) extract and collate relevant information from text and images;

(viii) incorporate into written responses, accurate and relevant images and other information in a suitable format to support and illustrate their presentations;

(ix) check that text is legible and clear;

(x) use standard conventions of spelling, punctuation and grammar and present arguments clearly and logically;

and for candidates following the A2 section of the specification:

(xi) synthesise geographical information from various sources and in various forms.

The assessment objectives are weighted as follows:

	AS GCE	A2	Advanced GCE
AO1	25%	25%	25%
AO2	20%	20%	20%
AO3	20%	20%	20%
AO4	35%	35%	35%

3.1 Specification Grid

The relationship between assessment objectives and the units of assessment is shown in the grids below.

Unit	Level	Percentage of Advanced GCE				
		AO1	AO2	AO3	AO4	Total %
2687	AS	5	2.5	2.5	5	15
2688	AS	5	2.5	2.5	5	15
2689	AS	2.5	5	5	7.5	20
2690	A2	-	2	2.5	10.5	15
2691	A2	7.5	3	2.5	2	15
2692	A2	5	5	5	5	20
	Total	25	20	20	35	100

3.2 Quality of Written Communication

Where candidates are required to answer in continuous prose, the marks awarded take into account the quality of language used by the candidate. The quality of written communication includes clarity of expression, the structure and presentation of information and ideas, grammar, punctuation and spelling.

Candidates are required to:

- select and use a form and style of writing that is appropriate to their purpose and complex subject matter;
- organise relevant information clearly and coherently, using specialist vocabulary where appropriate;
- ensure their text is legible, and their spelling, grammar and punctuation are accurate so that meaning is clear.

4 Scheme of Assessment

Candidates take three units for AS GCE followed by a further three units at A2 if they are seeking an Advanced GCE award.

Units of assessment

Unit	Level	Name	Duration	Mode of Assessment	Weighting	
					AS	Advanced GCE
2687	AS	Physical Systems and their Management	1 hour 30 mins	Written Examination	30%	15%
2688	AS	Human Systems and their Management	1 hour 30 mins	Written Examination	30%	15%
2689	AS	Geographical Investigations 1	-	External Assignment	40%	20%
2690	A2	Geographical Investigations 2	-	Coursework	-	15%
2691	A2	Issues in the Environment	2 hours	Written Examination	-	15%
2692	A2	Issues in Sustainable Development	2 hours	Written Examination	-	20%

Rules of Combination

Candidates must take the following combination of units:

AS GCE Units 2687, 2688 and 2689.

Advanced GCE Units 2687, 2688, 2689, 2690, 2691 and 2692.

Unit Availability

There are two assessment sessions each year, in January and June.

The availability of units is shown below.

Unit	Level	Name	Jan* 2005	June 2005
2687	AS	Physical Systems and their Management	✓	✓
2688	AS	Human Systems and their Management	✓	✓
2689	AS	Geographical Investigations 1	✓	✓
2690	A2	Geographical Investigations 2	✓	✓
2691	A2	Issues in the Environment	✓	✓
2692*	A2	Issues in Sustainable Development	–	✓

*** A2 Unit 2692 is no longer available in the January session but is still available in the June session.**

The availability shown will be the same in subsequent years

Sequence of Units

The normal sequence in which the units could be taken is Units 2687, 2688 and 2689 in the first year of a course of study, leading to an AS GCE award, then Units 2690, 2691 and 2692 in the second year, together leading to an Advanced GCE award. However, units may be taken in other sequences.

Alternatively, candidates may take all units at the end of their AS GCE or Advanced GCE course in a 'linear' manner, if desired.

Synoptic Assessment

Synoptic assessment requirements are met in Unit 2692 which provides opportunities for candidates to draw upon their knowledge and understanding of the connections between different aspects of the subject in analysing issues in sustainable development.

The view of synopticity taken here is that candidates should be required to draw together their knowledge and understanding which is relevant to the issue being considered, and be able to use the skills acquired in other modules to help them analyse that issue.

For Advanced GCE, Unit 2692 should normally be taken at the end of a candidate's course of study, but this is no longer a requirement.

Certification

Candidates may enter for:

- AS GCE certification
- AS GCE certification, bank the result, and complete the A2 assessment at a later date
- Advanced GCE certification.

Candidates must enter the appropriate AS and A2 units to qualify for the full Advanced GCE award.

Individual unit results, prior to the certification of the qualification, have a shelf-life limited only by that of the qualification.

Re-sits of Units

The restrictions on re-sitting units have been removed, enabling candidates to re-take units more than once. Upon making an entry for certification, the best attempt will be counted towards the final award. This change applies to all candidates, including those who have already been entered for any units or full qualifications.

Re-sits of AS GCE and Advanced GCE.

Candidates may still enter for the full qualification an unlimited number of times.

4.1 Question Papers

4.1.1 AS

Unit 2687 - Physical Systems and their Management (1 hour 30 minutes) (90 marks)
Unit 2688 - Human Systems and their Management (1 hour 30 minutes) (90 marks)

The question papers for Units 2687 and 2688 have a common format. They contain two sections. Section A consists of three structured questions, one on each of the study sections which make up the module content, two of which must be chosen. The questions may be short-answer or data-response type. Section B consists of two concise essay type questions which are issues based and draw upon at least two of the study sections. Candidates must answer one of them.

Unit 2689 - Geographical Investigations 1 (External Assignment) (60 marks)

The external assignment has two sections. Section A is a 1500 word report. This is a commentary on, and an evaluation of, fieldwork investigations undertaken as part of work on Modules 2687 and 2688. Further guidance on the conduct of the report is given in Appendix B.

Section A is completed before Section B is undertaken. Section B is set by OCR. It consists, firstly, of three questions which refer to the candidate's 1500 word report. One must be answered. These concise essay type questions assess the candidate's ability to plan, manipulate and evaluate a good geographical investigation. Secondly, there is one data handling question, which may assess candidates' ability to collect, manipulate and analyse date, and which draws on candidate's knowledge and understanding of Modules 2687 and 2688. Section B is undertaken under controlled conditions at the Centre's discretion in the period 1 May to 15 May (June session) or 6 January to 20 January (January session). Section B is completed in a question and answer booklet provided by OCR. Candidates must restrict their answers to the spaces provided. Additional answer paper is not permitted. The Centre should attach Section A to Section B. The external assignment is marked by OCR.

The reports form part of the external assessment for the course and are therefore not returned automatically. If the candidate is likely to need their report at a later stage they should be advised to take a photocopy. Candidates who wish their reports to be returned should apply under the standard procedure for the return of scripts following the publication of results for a session. Examination officers will have details of the procedures for the return of examination scripts.

4.1.2 A2

Unit 2691 - Issues in the Environment (2 hours) (90 marks) (2 options, 2 x 45 marks)

The options are headed, 'List A – Physical Options' and 'List B – Human Options'. Candidates choose one question from each list.

The question paper has one question on each option.

The first part of each question is based on a stimulus item such as a piece of text, a map or a diagram.

The second part of each question consists of two extended essay type questions, of which candidates answer one.

Unit 2692 – Issues in Sustainable Development (2 hours) (120 marks)

The question paper contains a variable number of compulsory structured questions and tasks. The questions are based on pre-released material, related to the content of Module 2692 and selected to give candidates opportunities to draw upon their knowledge of other modules.

The question paper is designed to assess candidates' ability to analyse issues in sustainable development. Candidates are required to draw upon their knowledge of physical and human processes and the skills acquired in other modules. They are expected to show an understanding of background issues, to consider alternative ways of resolving problems and to present well-argued cases for possible management strategies and policies based on their knowledge of the specification as a whole.

The tasks contain opportunities for candidates to display a variety of communication skills.

4.2 Internal Assessment

Unit 2690 - Geographical Investigations 2 (90 marks)

Unit 2690 is assessed through a report on a directed task based on a topic for investigation which should arise out of but extend the content of one or more of the other modules of the specification. It may be an extension of work undertaken as part of Module 2689, Geographical Investigations 1.

There are two alternative routes through the investigation. In route 1, the investigation must be based on data collected in the field which should be supplemented with other primary and secondary data, and make use of information and communication technology, as appropriate.

In route 2, the investigation can be based on primary and secondary data, and data collection in the field is **not** a requirement. However, if this route is chosen, significant and appropriate use must be made of Information and Communication Technology in order to gather, process, analyse and present the data.

Whichever route is taken, the investigation must demonstrate a range of geographical skills. The report should not exceed 2500 words plus maps and diagrams. This investigation is marked by the teachers, internally standardised by the Centre and externally moderated by OCR.

Further guidance on the conduct of Unit 2690 can be found in Appendix C.

4.2.1 Assessment and Moderation

Coursework is marked by the teacher and marking is then internally standardised by the Centre. Marks are then submitted to OCR by the specified date, after which postal moderation takes place in accordance with OCR procedures. The purpose of moderation is to ensure that the standard for the award of marks in coursework is the same for each Centre, and that each teacher has applied the standards appropriately, across the range of candidates within the Centre.

The sample of work which is submitted to the Moderator for moderation must show how the marks have been awarded in relation to the marking criteria.

4.2.2 Minimum Coursework Requirements

If a candidate submits no work for Unit 2690, then the candidate should be indicated as being absent from that unit on the coursework mark sheets submitted to OCR. If a candidate completes any work at all for Unit 2690 then the work should be assessed according to the mark descriptors and marking instructions and the appropriate mark awarded, which may be 0 (zero).

4.2.3 Authentication

As with all coursework, the teacher must be able to verify that the work submitted for assessment is the candidate's own work. Sufficient work must be carried out under direct supervision to allow the teacher to authenticate the coursework marks with confidence.

4.3 Special Arrangements

For candidates who are unable to complete the full assessment or whose performance may be adversely affected through no fault of their own, teachers should consult the *Inter-Board Regulations and Guidance Booklet for Special Arrangements and Special Consideration*. In such cases advice should be sought from OCR as early as possible during the course.

4.4 Differentiation

In the question papers, differentiation is achieved by setting questions which are designed to assess candidates at their appropriate levels of ability and which are intended to allow all candidates to demonstrate what they know, understand and can do.

In coursework, differentiation is by task and by outcome. Candidates undertake assignments which enable them to display positive achievement.

4.5 Awarding of Grades

The AS GCE has a weighting of 50% when used in an Advanced GCE award. An Advanced GCE award is based on the certification of the weighted AS (50%) and A2 (50%) marks.

Both AS GCE and Advanced GCE qualifications are awarded on the scale A to E, or U (unclassified).

4.6 Grade Descriptions

The following grade descriptions indicate the level of attainment characteristic of the given grade at Advanced GCE. They give a general indication of the required learning outcomes at each specified grade. The descriptions should be interpreted in relation to the content outlined in the specification; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

GRADE A

Candidates show a comprehensive, in-depth knowledge of places, themes and environments required by the specification and of the physical and human processes which affect their development. They have a sound knowledge of the concepts, principles and theories relevant to the understanding and analysis of the specification content, and show a knowledge of a wide range of geographical terms.

They show their understanding by appropriately applying their knowledge of specification content to both familiar and unfamiliar geographical contexts at a range of scales. They evaluate the potential and limitations of concepts and theories and their relevance to particular contexts. They show a well-developed understanding of the connections between the different aspects of geography represented in the specification.

Candidates display skill in interpreting a range of sources of geographical information including spatial and temporal data at different scales. They show the ability to identify appropriate geographical questions in a range of contexts and to formulate and adopt effective approaches to enquiry. They collect evidence using an appropriate range of skills and techniques, including those used in fieldwork, from both primary and secondary sources. They use a variety of appropriate techniques to present and analyse evidence. They draw selectively on their knowledge of specification content to reach well reasoned conclusions and evaluate both the effectiveness of their methodology and the validity of the outcomes, recognising the limitations of both.

They communicate their findings fluently in different formats, synthesising geographical information from a variety of sources, and presenting them within a logical and coherent structure which addresses closely the nature of the task. They use standard conventions of spelling, punctuation and grammar with a high level of accuracy and use geographical terminology with confidence.

GRADE C

Candidates show a sound knowledge of places, themes and environments required by the specification and of some of the main physical and human processes which affect their development. They have a knowledge of the main concepts, principles and theories relevant to the understanding and analysis of the specified content, and show a knowledge of a range of geographical terms.

They show their understanding by applying their knowledge of specification content to both familiar and unfamiliar geographical contexts at different scales. They comment on the usefulness of concepts and theories and their relevance to particular contexts. They show understanding of the connections between the different aspects of geography represented in the specification.

Candidates display skill in interpreting selected sources of geographical information including spatial and temporal data at different scales. They identify appropriate geographical questions, and formulate and adopt effective approaches to enquiry. They collect evidence, using appropriate skills and techniques, including those used in fieldwork, from both primary and secondary sources. They use appropriate techniques to present and analyse evidence. They apply their knowledge of the specification content to reach some valid conclusions and comment upon both the effectiveness of their methodology and the validity of the outcomes.

They communicate clearly their knowledge and understanding, and the outcomes of their enquiries in different formats, showing some ability to synthesise geographical information from different sources and presenting findings in a structured manner appropriate to the task. They employ standard conventions of spelling, punctuation and grammar with reasonable accuracy, and use a range of geographical terms.

GRADE E

Candidates show a knowledge of some of the places, themes and environments required by the specification and of some of the main processes which affect their development. They are aware of the contribution that concepts, principles and theories can make to the interpretation of geographical contexts. They have a knowledge of some geographical terminology.

They explain familiar contexts using basic ideas and concepts, and show some understanding of the connections between the different aspects of geography represented in the specification.

Candidates display skill in interpreting commonly encountered sources of geographical information. They identify relevant geographical questions when presented with familiar contexts and can suggest and adopt approaches to enquiry. They use basic techniques, including those used in fieldwork, for data collection from primary and secondary sources. They use a limited range of methods to present and analyse evidence. They use their knowledge of the specification content to reach simple conclusions, and identify the strengths and weaknesses of their enquiries.

They communicate their knowledge and understanding in different formats, largely in everyday language, by drawing upon a limited number of sources. They use standard conventions of spelling, punctuation and grammar with limited accuracy.

5 Specification Content

These specifications are set out in the form of teaching modules. Each teaching module is assessed by its associated unit of assessment.

Throughout this section the symbol  is used in the margin to highlight where Key Skills development opportunities are signposted. For more information on Keys Skills coverage please refer to Appendix A.

The content of the AS modules is designed to provide the candidate with a grounding in physical, human and environmental geography developed through, and illustrated by, a study of places and environments. It provides the basis for an investigation of environmental issues and consequent management and policy responses.

While offering a complete course in themselves, the AS modules underpin the A2 modules, which in turn provide opportunities for study in greater depth, the synthesis of knowledge and understanding, and the application of ideas and skills to new situations. Geographical investigation and the Key Skills, especially of communication and problem solving, are promoted by the way in which the content is presented, particularly in Modules 2689 and 2690 (Geographical Investigations 1 and 2 respectively) and by Module 2692 (Issues in Sustainable Development).

The content of Modules 2687, 2688, 2691 and 2692 is presented under four headings, which reflect the philosophy of the specifications and possible approaches to teaching them. This common format is also used to ensure comparability of treatment between the options in Module 2691. The four headings are:

- Rationale
- Questions for Investigation
- Key Ideas and Concepts
- Places, Environments and Scales for Study

The Rationale for each module is designed to indicate its role within the whole specification and opportunities for developing Key Skills.

The Questions for Investigation are intended to provide the basis for an investigative approach to studying the places and environments, both in the classroom and in the field, which will equip the candidates with a range of geographical skills.

The Key Ideas and Concepts are what the candidate needs to understand and apply to pursue the Questions for Investigation and study the Places, Environments and Scales.

The Places, Environments and Scales for Study have been selected to reflect the range of studies and scales referred to in the Subject Core for Geography. In most cases, Centres are able to use them as guidance for choosing their own places, environments and case studies, although in a few cases the places for study are specified.

Within each module content statement, the places and environments to be studied have been selected to support the study of the key ideas and concepts, and are listed in a sequence which follows that of the key ideas. The scale of study has been emphasised in bold in order to underline the need to work at an appropriate range of scales. Thus the three elements of content are different ways of expressing the content rather than distinct elements.

The knowledge of places and environments required in the examination papers will be restricted to that specified under this heading in each module. However, Centres may wish to use a variety of other case studies to broaden their candidates' knowledge and to help them support their answers with accurate examples and evidence.

Centres are encouraged to select for study places at different scales which can support more than one module. This helps to:

- limit the number of different places to be studied;
- provide candidates with an in-depth understanding;
- develop an awareness of the links between different aspects of the subject.

The content of Modules 2689 and 2690 is presented as a commentary on the skills required for the conduct of geographical investigations which should be part of, and arise from, studying the other modules.

Centres are encouraged to deliver Module 2689 as part of Modules 2687 and 2688 rather than as a discrete module.

5.1 Module 2687: Physical Systems and their Management

C3.2; N3.1, N3.2, N3.3

LP3.1, LP3.2; PS3.1

Rationale

This module is designed to build on studies of physical geography already undertaken at GCSE and to provide a foundation for studying a physical option at A2. It requires a deeper understanding of physical processes (atmospheric, terrestrial, and biotic), their influence on environments and people's responses to them. The emphasis on people-environment issues is designed to show how geography can contribute to their management.

The module should be developed through a study of places and environments, at different scales, selected from the British Isles and contrasting parts of the European Union (EU) and the world.

This module provides opportunities for developing and providing evidence for assessing the key skills of communication, application of number, improving own learning and performance and problem solving. For further details see Appendix A.

5.1.1 Study Section A: Atmospheric Systems and People

Questions for Investigation

What conditions are responsible for distinctive patterns of weather and climate and their associated vegetation types?

What interactions exist between people and atmospheric systems?

To what issues, responses, and management strategies do these interactions give rise?

Key Ideas and Concepts

There are horizontal and vertical energy transfers in the atmosphere.

- Heat transfer by winds and ocean currents. Heat exchange in the atmosphere. Pressure and winds.

Moisture in the atmosphere is important in energy transfer and weather patterns.

- Humidity and dew point temperature. Changes of state of water. Air stability and instability. Cloud and precipitation types.

Britain's weather and climate are variable due to Britain’s position in relation to the global atmospheric circulation.

- The global atmospheric circulation. Maritime and continental factors. Air masses and fronts. Pressure systems and associated weather.

Moisture and temperature regimes in different parts of Europe contribute to distinctive vegetation types.

- Climax and plagioclimax vegetation. Climatic and edaphic factors.

The British climate provides opportunities and constraints for human activity.

- Short and medium term hazards. Snow, fog, storms, flooding, drought.
- Water as a resource: Regional resources and demand. Supply and demand management strategies.

People have an impact on weather and climate at a range of scales.

- Urban and rural micro-climates. Impact of human activity on air quality, global warming and management strategies.

Places, Environments and Scales for Study

The climates of North West Europe at the sub-continental scale in the context of global atmospheric circulation.

A comparison of a contrasting climatic region and its associated climax vegetation in Europe with the climate and climax vegetation of the British Isles.

Seasonal and short-term fluctuations in British weather at local and national scale to demonstrate the working and impact of pressure systems, air masses, winds, continentality and relief.

Climatic contrasts at the regional scale within the British Isles.

Local/regional scale studies of short-term hazards.

Microclimates at the local scale in a selected urban and rural area.

Atmospheric pollution in the UK and links with global warming.

The UK map of water resources, demand and supply, and consequent management issues in a selected region.

5.1.2 Study Section B: Landform Systems and People

Questions for Investigation

What physical processes are operating on the landforms of fluvial environments?

How are people interacting with these physical processes and systems?

What issues, responses and management strategies arise from this?

Key Ideas and Concepts

Fluvial processes combine with weathering and slope processes to produce distinctive landforms.

- Fluvial landform systems as the interaction between other systems: weathering, slope system, drainage basin system.

Fluvial processes reflect the way in which the drainage basin sub-system of the hydrological cycle operates.

- The drainage basin system including changes resulting from variations in the hydrological cycle: river regimes, flow duration curves, storm hydrographs.
- Fluvial processes: channel efficiency, energy variations, geomorphological processes: erosion, transport and deposition.
- Valley landforms as a product of weathering, slope and fluvial processes: mass movement, basal removal and accumulation.
- Valley profiles, erosional, depositional and channel forms.

Drainage basin systems can be modified by human activity.

- Vegetation change: cultivation, afforestation, urbanisation.

Drainage basin systems and their landforms present management challenges.

- Unstable slopes and their control, upper catchment management, flood plains and their management including environmentally sensitive approaches.

Places, Environments and Scales for Study

Study of a major British drainage basin and a selected major basin outside Europe to illustrate principles of basin hydrology at the regional scale including the effects of human activity.

Contrasting hydrographs for four British rivers.

Landforms at the regional scale of a major river basin in the British Isles.

Two comparative case studies to illustrate different approaches to catchment management and flood control at the local and regional scales.

5.1.3 Study Section C: Coastal Systems and People

Questions for Investigation

What are the conditions and processes responsible for distinctive coastal landforms and ecosystems?

How do people interact with these processes and systems?

What issues and management strategies arise from this?

Key Ideas and Concepts

Coastal processes and landforms reflect local winds and weather, coastal configuration and water movements.

- Erosion, transport and deposition by the sea. Cliff and beach systems. Sediment sources, movements and cells, and the associated erosional and depositional landforms.

Distinctive ecosystems develop in coastal environments.

- Dune and coastal wetland ecosystems.

Coastal processes and landforms can be modified by human activity.

- Coastal sand and gravel extraction, dune erosion, port construction.

Coastal systems and landforms present management challenges for people.

- Management of coastal erosion, dune systems and future sea level change. Sediment cells and integrated coastal management.

Places, Environments and Scales for Study

Coastal processes and landforms in a sediment cell, at the regional scale within North West Europe, which shows both erosional and depositional landforms.

Coastal management strategies along a stretch of coastline, at the local and regional scale, where their effectiveness can be evaluated.

Studies at the local scale of a dune system and a coastal wetland to illustrate contrasts in ecosystems, human impact and management strategies.

5.2 Module 2688: Human Systems and their Management

C3.1a	LP3.1, LP3.2; PS3.1

Rationale

This module is designed to build on the studies in human geography undertaken at GCSE by providing a deeper understanding of how economic, social, political and cultural processes influence human environments and systems and how they can be managed. It focuses on selected place studies at a range of scales, chosen from countries in different states of development.

The module provides opportunities for geographical investigation based on both primary and secondary data and a basis for studying a human option at A2.

This module provides opportunities for developing and providing evidence for assessing the key skills of communication, improving own learning and performance and problem solving. For further details see Appendix A.

5.2.1 Study Section A: Economic Activity and Change

Questions for Investigation

How is the location and spatial organisation of economic activity changing?

Why is the location and spatial organisation of economic activity changing?

What are the social, political and environmental impacts of economic change and how can they be managed?

Key Ideas and Concepts

The structure of economies is changing over time.

- Levels of economic development. Primary, secondary, tertiary and quaternary sectors. Growth of transnationals and the globalisation of industry. Business parks.

Economic activities are changing in response to government policies and market forces, changing technologies, including transport and telecommunications developments.

- Markets and business organisation, horizontal and vertical organisation, ‘just-in-time’ principle, rationalisation.

Economic change can create benefits and problems at national, regional and local scales.

- Changing job opportunities and the planning response. The effects of plant closure on communities and regional economies. Effects of inward investment, pressure on services, housing, transport, rural land.
- Multiplier effect, industrial decline and industrial dereliction; government incentives and disincentives.

Places, Environments and Scales for Study

Changing employment structures in the UK, an MEDC and an LEDC.

Changes in the location of an industry at the national scale within the UK, an LEDC or newly industrialising country (NIC), and globally, to include the role of TNCs.

Economic and social issues at the at the local, regional and national scales arising from economic change in one MEDC and one LEDC.

The impact of government policies at the national scale in the UK.

Local scale studies of reclamation of derelict land and a planning issue concerned with green-field development.

5.2.2 Study Section B: Settlement Dynamics

Questions for Investigation

How are the form and function of settlements changing?

Why are the form and function of settlements changing?

How successful has been the planning response to these changes?

Key Ideas and Concepts

Some settlements are increasing in size, whilst others are decreasing.

- Size can be measured in both population and area.
- Functions and patterns of land use within urban areas is changing.
- Changes in housing and service provision over time. Urban zones and the urban fringe, urban sprawl, decentralisation of functions, segregation and changing demographic patterns.

Form and function of settlements change in response to both planned and unplanned social and economic processes, as well as technological changes

- Suburbanisation and counter-urbanisation, migration, competition for land, urban renewal, gentrification, changed accessibility and changing lifestyles.

The success of plans varies according to the different social, economic and environmental circumstances.

- Rural and urban planning schemes, re-active and pro-active planning, 'green belts'.

Places, Environments and Scales for Study

Case studies at the local scale of changing urban areas and their surrounding rural settlements in the UK.

Planning and development issues within a large urban area in the UK, compared with another urban area in an MEDC.

The role of individuals, groups and government in housing and service provision in urban planning and decision making in an LEDC.

5.2.3 Study Section C: Population and Development

Questions for Investigation

What are the links between development and population change?

What are spatial impacts of these changes?

What issues arise from development and population change?

Key Ideas and Concepts

Population dynamics and development are linked.

- Economic opportunities and prosperity and their effects on birth rates, death rates, fertility and mortality, age structures, demographic cycles, migration, urbanisation the changing status and role of women. Development indices.

Demographic changes have an impact upon economic development, the supply and management of resources.

- Population and resource relationships, global patterns of change, over- and under-population, optimum population, implications for future living conditions, population policies.

There are different approaches to the management of population change and economic development.

- Government policies on birth, migration, resource management, provision of housing, health, education and services. Issues of population dependency.

Places, Environments and Scales for Study

Global patterns of population and development.

Population trends, urbanisation patterns and structure at the regional scale within an EU country compared with an LEDC.

Population structure and change at the local scale, and changing population patterns in the UK over time.

Internal migration (rural/urban) at the national scale within an LEDC.

Population-resource relationships and policies at the national scale in an LEDC and an MEDC.

5.3 Module 2689: Geographical Investigations 1

C3.3; N3.2, N3.3; IT3.1, IT3.2, IT3.3

WO3.1, WO3.2, WO3.3, LP3.1, PS3.1

Rationale

This module is designed to develop a range of skills and techniques appropriate to an investigative approach to geography. Ideally they should be developed as part of the teaching of Modules 2687 and 2688 rather than as part of a separately taught module. The skills and techniques should form a basis for further investigative work at A2, especially in Geographical Investigations 2, (Module 2690).

This module provides opportunities for developing and providing evidence for at least some part of the Key Skills of Communication, Application of Number, IT, Working With Others, Improving Own Learning and Performance and Problem solving. For further details see Appendix A.

Investigative skills

As a result of studying Modules 2687 and 2688 through an investigative approach, both in the classroom and in the field, candidates should acquire and develop a range of subject-specific skills as well as the key skills. It is important that these skills are selected for their appropriateness to the investigation in progress at any particular time. The list below cannot, therefore, be definitive, rather it represents the variety of skills which the candidate should be aware of as a basis for making decisions when planning investigations and presenting their outcomes.

These skills are shared with Module 2690, Geographical Investigations 2, and some of them are relevant to the examination papers for the other modules:

- skill in contributing significantly to the planning of investigations by identifying appropriate questions, strategies and techniques.

- skill in selecting and extracting relevant data from appropriate sources, for example from:

  - books, journals, reports, the media, maps at a range of scales, statistics, censuses, graphs, photographs, remotely sensed images, people, information held in Geographical Information Systems and other Information and Communication Technology data bases.

- skill in identifying appropriate data collection strategies, including simple sampling strategies.

- skill in collecting data using field techniques including direct observation, field sketching, mapping spatial information, questionnaires, interviews, environmental assessments.

- skill in measuring and recording data in the field with instruments such as soil testing kits, surveying instruments, compasses, flow meters, an automatic weather station, cameras.

- skill in interpreting data by: identifying patterns, trends and relationships in data, such as:

  - OS maps and plans, and other national maps at scales of 1:50 000 and larger, atlas maps, route maps, and thematic maps showing, for instance, weather, land use, socio-economic variables;

  - ground and air photographs and satellite images;

  - graphs, including bar, line, scatter and triangular graphs, and pie and star charts; statistics.

- skill in identifying bias, meaning and purpose in media sources, promotional material, cartoons.

- skill in using evidence, and analysing and synthesising data to reach conclusions.

- skill in communicating the outcomes of investigations by:

  - representing data in a variety of map and graphic forms;

  - using geographical vocabulary;

  - writing reports;

  - discussing their findings with others.

- skill in evaluating the outcomes of geographical investigations, for instance by:

  - relating outcomes to the body of geographical theory;

  - recognising the validity and sources of error in the data collected.

5.4 Module 2690: Geographical Investigations 2

C3.1b, C3.2, C3.3, N3.1, N3.2, N3.3, IT3.1, IT3.2, IT3.3

LP3.1, LP3.2, LP3.3, PS3.2, PS3.3.

Rationale

This module is designed to build on the investigative work undertaken as part of Modules 2687, 2688 and 2689. It provides opportunities for candidates to undertake a personal investigation on a topic of their own choosing and to pursue it to a greater depth than in earlier modules.

This module provides opportunities for developing and providing evidence for the assessment of the key skills of communication, IT, application of number, problem solving, and improving own learning and performance. For further details see appendix A.

As a result of undertaking investigative work in studying Modules 2687 and 2688 and completing the assessment requirements of Unit 2689, candidates should have acquired the skills needed to undertake a personal investigation.

In addition to the skills listed for Module 2689, Geographical Investigations 1, candidates should develop the additional skills listed below.

- skill in using, where appropriate, statistical techniques, for example:
  - sampling, measures of central tendency, measures of variations within and between samples, methods of presenting and describing statistical distributions, methods of analysing samples including scatter diagrams and best fit lines, correlation significance tests, testing differences (hypothesis testing) Mann-Whitney U test and Chi squared.
- skill in planning, conducting and evaluating their own personal investigation, including:
  - identification of a question, questions or an issue for investigation;
  - formulation of a general design;
  - identification of relevant sources of information, their potential and limitations;
  - identification of appropriate sampling strategies where necessary;
  - collection and recording of information;
  - processing and representing of information.
- skill in analysing information, including:
  - drawing identifying error and bias in the collected information;
  - drawing conclusions in relation to the original question or issue based on the information collected;
  - evaluating of design and outcomes of the investigation in the light of geographical theory, their relevance, and their implications for further study.

There are two alternative routes through the investigation. In route 1, the investigation must be based on data collected in the field which should be supplemented with other primary and secondary data, and make use of Information and Communication Technology, as appropriate.

In route 2, the investigation can be based on primary and secondary data but data collection in the field is **not** a requirement. However if this route is chosen, significant and appropriate use must be made of information and communication technology in order to gather, process, analyse and present the data. Whichever route is taken, the investigation must demonstrate a range of geographical skills.

5.5 Module 2691: Issues in the Environment

C3.1b, C3.2. **LP3.2, LP3.3.**

The aim of this module is to provide opportunities for candidates to build on the foundation of knowledge and understanding established at AS through the study of Modules 2687 and 2689, by undertaking studies in depth in selected aspects of physical and human geography.

This module provides opportunities for developing and providing evidence for the assessment of the key skills of communication and improving own learning and performance. For further details see Appendix A.

Candidates must study **two** options from this module: **one** from List A and **one** from List B.

List A - Physical Options

5.5.1 Natural Hazards and Human Responses

5.5.2 Climate and Society

5.5.3 Cold Environments and Human Responses

5.5.4 Tropical Environments and People

List B - Human Options

5.5.5 Food Supply: Management and Change

5.5.6 Changing Urban Places

5.5.7 Leisure and Tourism

5.5.8 The Globalisation of Economic Activity

5.5.1 Natural Hazards and Human Responses (List A Option)

Rationale

This option focuses on those physical processes and systems which present a hazard to human activity. It extends, as well as builds upon, the understanding of physical processes developed in Module 2687 by placing them in a hazards context. At the same time, it recognises that human processes may exacerbate and extend the scale of 'natural' hazards. It examines the extent to which extreme physical events present a hazard to people in different parts of the world at a range of scales.

The option examines the range of human responses to natural hazards including hazard perception, short- and long-term responses to hazard management and prediction.

Questions for Investigation

Where do natural hazards and hazardous environments occur at the global scale?

How can natural hazards be defined and classified?

What physical processes lead to the development of natural hazards?

How do human processes influence the occurrence of 'natural' hazards?

How is the incidence of hazardous events and the damage arising from them changing over time?

How do the impacts of natural hazards vary between countries in different states of development?

How do responses and strategies for hazard management and prediction vary between countries?

Key Ideas and Concepts

Natural hazards may be classified and described by both their causes and their impact.

- Classification by physical process (tectonic, geomorphological, hydrological, atmospheric).
- Classification of hazards by their likely impact (magnitude, frequency and duration).

An understanding of the physical processes which underlie hazardous events is essential to successful management strategies.

- Tectonic processes at constructive and destructive plate margins leading to earthquakes and volcanic eruptions and tsunami.
- Geomorphic processes and environmental conditions leading to hazardous conditions: avalanches, mudflows, rock falls, landslides and slumping.
- Drainage basin processes and conditions leading to river flooding.
- Coastal processes and atmospheric conditions leading to coastal flooding.
- Atmospheric processes and physiographic conditions leading to hurricanes, tornadoes, mid-latitude storms, and local weather hazards, drought.

Natural hazards occur at the interface between extreme physical events and human activity.

- Hazards as exposure to risk, global distribution of hazardous events, global patterns of injury and damage.

Hazard frequency and impacts are likely to continue and may increase in the 21st century.

- Trends in hazard frequency and impact. Changes in physical and human systems and processes leading to changing levels of risk, for example, from global warming.

Groups perceive and respond to hazards in different ways.

- Hazard perception, acceptance, adaptation, domination. The influence of past experience, attitudes, values, levels of technology. Political priorities.
- Event modification, hazard prevention, environmental controls, hazard-resistant designs.
- Vulnerability reduction: prediction and warning, community preparedness and action, emergency plans.
- Loss modification: aid at different scales, insurance.

Places, Environments and Scales for Study

Global distribution and incidence of natural hazards and their changing frequency and impact over time.

Case studies of hazardous events at local and regional scales and in different countries, to exemplify the physical processes responsible for natural hazards and human responses and management strategies.

Studies at the national scale of environments experiencing multiple hazards in countries in different states of development.

5.5.2 Climate and Society (List A Option)

Rationale

This option considers the global atmospheric system and resulting climatic patterns by building on aspects of physical geography introduced in Module 2687. Methods of measuring and forecasting the weather are examined because of their significance to human activity in the short-term and the monitoring of climatic change in the long term. The option continues with a consideration of the interaction between human activity and weather and climate, as well as the issues and possible management strategies which arise from it.

Questions for Investigation

How can spatial patterns of weather and climate be explained in terms of the global atmospheric system?

How has climate changed over time?

How does weather and climate affect human activity?

What are the causes of atmospheric pollution and change?

What are the implications for physical and human systems of climatic change and how can these changes be managed?

Key Ideas and Concepts

The Earth's atmosphere can be interpreted as a complex and fluid system of gases and suspended particles.

- Vertical and horizontal structure of the atmosphere, energy and water exchanges in the atmosphere, GCMs, climatic patterns and regions.

Climatic change can occur as a result of both natural processes and human activity.

- Evidence of climatic change in the past, ice cores, isotope analysis, radio carbon dating, biological, and geological evidence, archaeological evidence and human records.
- Natural causes of climatic change: Milankovitch cycles, ice albedo effects, El Niño Southern Ocean Oscillation, volcanic activity.
- Human causes of climatic change, deforestation, atmospheric pollution, ozone depletion, greenhouse gases, local scale changes urban climates.

Weather and climate have impacts on human activity.

- Human comfort zones, seasonal patterns of human activity, rainfall, reliability and variability, short- and long-term hazardous events.

Weather observations and forecasting are essential to human activity in both the short- and long-term.

- Weather observations, techniques and limitations, forecasting techniques, short- term weather forecasting, long- term predictions of climatic change, use of forecasts in different contexts.

Human activity can influence air quality, weather and climate.

- Sources of pollution, concentration and dispersal of pollution, its impact on people and environments, pollution control measures.
- Global warming and its possible impact on environments and human activities, managing climatic change and its impact.

Places, Environments and Scales for Study

Global scale study of climatic types and their relationship to the general circulation model.

Climatic classification by plant growth, energy and moisture budgets.

Global climatic change since the early Pleistocene.

Global warming and its possible consequences in selected regions.

Human responses to weather and climatic conditions in two contrasting climatic regions.

The value and use of weather forecasts at the local and regional scales.

Atmospheric pollution and urban climate at the local and regional scale in a major city.

Legislation at the national and international scales to control atmospheric pollution and emissions.

5.5.3 Cold Environments and Human Responses (List A Option)

Rationale

This option provides opportunities for candidates to extend and deepen their understanding of physical geography acquired from Module 2687 by studying the physical processes and landforms associated with glacial and peri-glacial conditions and the human responses to them. It examines the evidence for past glaciations and how the landforms of past and present cold environments can be explained. It also considers how people respond to these environments and the management issues which arise.

Questions for Investigation

What circumstances lead to the development of glaciers and ice sheets and their changing distribution over time?

How do glacial and fluvio-glacial processes operate to produce distinctive landscapes?

What are the distinctive landforms of peri-glacial areas and how are they formed?

What challenges and opportunities exist for human activity in glacial and peri-glacial environments?

How can these environments be managed in a sustainable way?

Key Ideas and Concepts

The growth, decay and retreat of glaciers and ice sheets can be reconstructed from landforms and other evidence.

- The distribution of ice sheets and glaciers in the main glacial and inter-glacial periods.
- The use of evidence to reconstruct glacial and post- glacial conditions, including ice cores, pollen analysis marine and varve sediment analysis, sea level change.

Climatic change resulting in glacial and inter-glacial periods has occurred in the past and will continue in the future.

- Climatic change: past, present and future.

Landforms associated with modern glaciers and ice sheets can be identified in previously glaciated areas.

- Characteristics of ice movement and associated processes of erosion, entrainment and deposition.

The form and origin of glacial landforms.

Melt-waters are responsible for distinctive landforms and drainage features in and around glaciated areas.

- Melt-water flow and consequent erosion, transport and deposition.
- The characteristics and distribution of fluvio-glacial deposits.

Permafrost conditions create a distinctive environment beyond the limits of ice sheets.

- The nature and distribution of permafrost and its influence on hydrological and surface processes.
- The development of settlements in periglacial regions.

Glaciated landscapes provide a variety of opportunities for development.

- The landscape quality of glaciated areas, the impact of leisure activities and linked management strategies.
- The extraction of glacial and fluvio-glacial deposits by the construction industry and subsequent landscape reclamation.

Places, Environments and Scales for Study

Pleistocene chronology in Europe and the associated major landforms at the continental scale.

Three case studies of areas at a local and regional scale, characterised by landforms associated with:

- mountain glaciers;
- ice sheets and their margins;

outwash plains and melt-waters.

A study of a present-day permafrost region to include active slope processes, river regimes, and associated construction problems and their solutions.

The impact of leisure activities and strategies for their management in a chosen glaciated mountain region.

Conflicts of interest arising from sand and gravel extraction in a chosen local scale area.

5.5.4 Tropical Environments and People (List A Option)

Rationale

This option analyses the diversity of tropical environments and the constraints and opportunities they provide for human activities. It develops and extends a knowledge of physical processes introduced in Module 2687, and applies them in a fresh context and to different parts of the world where development presents particular challenges and where a large and growing proportion of the world's population live.

Questions for Investigation

How can tropical environments be classified and defined?

How are spatial variations in tropical climates related to the global circulation of the atmosphere, as well as to location and altitude?

How do physical processes operate to produce distinctive tropical ecosystems?

Why is the tropical environment a hazardous one for human activity?

How are tropical ecosystems being affected by human activity?

What are the possible long-term consequences of inappropriate development in the Tropics?

What are the most appropriate forms of development in the tropical environment?

Key Ideas and Concepts

There is a great diversity of tropical environments in which availability of moisture from season to season and year to year is a key determinant.

- Climatic parameters of temperature and rainfall in different climatic zones. Diurnal, seasonal and annual variations. Water balance, surplus and deficits. Run off regimes in relation to climate.

Variations in tropical climate at the global scale reflect seasonal shifts in the input of solar energy and the atmospheric circulation.

- The Hadley cell, the easterly jet stream, migration of the ITZC.

Most tropical ecosystems are fragile.

- Diversity and productivity, trophic pyramids and climax communities.
- Nutrient cycles and soil fertility under tropical conditions.
- The impact of human interference, plagioclimax communities.

Human activity in the Tropics is constrained by hazards which are both natural and man-induced.

- Tropical cyclones, flooding, soil erosion; origins, impact and human responses.

Exploitative forms of development have led to the degradation of natural systems.

- The impact of clear felling, large scale burning and overgrazing.
- Mineral exploitation, large-scale irrigation schemes.

Sustainable development in the tropical environment should be based on a full understanding of natural systems.

- The sustainability of traditional systems, managed forestry, agroforestry, bio-reserves, and basin management.

Places, Environments and Scales for Study

Three local and regional scale case studies of tropical environments (humid, sub-humid and arid) selected from the three main continental regions.

Climatic variations in one continent.

Local/regional scale case studies of different kinds of development to illustrate opportunities and constraints within contrasting environments:

- farming by indigenous groups;
- small-scale migrant farming;
- perennial irrigation schemes;
- managed forestry;
- eco-tourism.

5.5.5 Food Supply: Management and Change (List B Option)

Rationale

This option draws upon aspects of human processes and activities introduced in Module 2688. It is designed to give an insight into the issues arising from the interaction between food production, the environment, and population and development. It considers both traditional and modern production and supply systems and relates them to contrasting levels of development.

It goes on to consider dietary issues and how these are linked levels of well being. It also examines the impact of modern methods of food production on the environment.

Questions for Investigation

To what extent do present food supplies meet world demand?

What factors influence the global pattern of food production and productivity?

What are the health issues associated with under- and over-nutrition?

What are the environmental effects of the increasing productivity of food supply systems?

How can the growing needs for human food be met in an equitable manner?

What is the relative power of consumers, producers, suppliers and governments in food supply systems?

How do government policies and international organisations influence food supplies at the national and international scales?

Key Ideas and Concepts

The availability of food supplies is uneven and does not match demand.

- Global patterns of food production in relation to population. Production of major crops and livestock. Calorie intakes. Global contrasts in diet and food consumption. Patterns of trade in food.

Spatial patterns of food production and productivity reflect economic, technological and social conditions rather than physical conditions.

- The varying potential of different natural environments for food production. The physical controls on productivity. Contrasting agricultural systems in countries in different states of development.

Inadequate and inappropriate diets can be linked to spatial patterns of disease.

- Basic nutritional needs of the human population. Health issues linked to under- and over-nutrition. Spatial patterns of diet related disease. Gender issues in relation to dietary health.

Large companies, government policies and international agencies increasingly influence food production and supply.

Agriculture as a business, agribusiness. The growing global interdependence of supply, processing and marketing of food. The organisation of trade in food, food products and food retailing.

National and international policies on agriculture and food production. Food aid and famine relief in areas of food deficit. The role of international agencies. Gender issues in food production, purchasing and consumption.

Modern agricultural systems may lead to environmental degradation.

- Reduction of bio-diversity, habitat loss, land degradation, and soil erosion, the impact on basin hydrology, chemical pollution of land and water courses. Impact on the rural landscape. Alternative systems, organic farming.

Places, Environments and Scales for Study

Physical controls on food production in a range of biomes, and traditional and modern food production systems in those biomes.

Food supply and security of supply at the national scale in a selected LEDC.

Local/regional scale case studies to illustrate the effects of food production on the environment in selected regions, and individual farms within them, to include:

- intensive arable and hill farming in the UK;
- horticulture in the EU;
- a selected large irrigation scheme in an MEDC;
- small scale farming in a tropical region.

National scale case studies of UK food production systems, the changing roles of, and linkages between, farmers, food processors and manufactures, wholesalers, retailers and consumers. The impact of government policies and legislation.

The effects of the Common Agricultural Policy on farming and food production in selected regions of the EU.

National/global scale studies of UK, EU and United Nations policy on food aid and famine relief. The work of a large international charity.

5.5.6 Changing Urban Places (List B Option)

Rationale

This option investigates Changing Urban Places within different countries and builds upon the aspects of human geography studied in Module 2688. It is designed to encourage a greater understanding of urban processes and the success of different approaches to their management.

Questions for Investigation

What are the impacts of social, economic and environmental change on people in urban areas?

What strategies are available for managing social change?

What strategies are available to manage the urban environment?

What strategies are available to support economic activity?

What are the roles of urban decision-makers and local people in influencing change and improving quality of life?

Can urban systems be sustainably managed?

Key Ideas and Concepts

Social, economic and environmental change has an impact upon the quality of life of different groups of people.

- quality of life, multiple deprivation, social exclusion, racial and ethnic diversity, environmental quality, diseconomies of scale.

Meeting the 'basic needs' of people requires different degrees of planning and intervention in housing and service provision.

- Public and private development, access to services.

The impacts on microclimate and air quality, hydrology and the built environment all need careful management.

- Preventative and restorative management strategies.

There are different approaches to intervention in the urban economy.

- Managing 'economies of scale' and 'diseconomies of scale', attracting investment, subsidy, infrastructure development, accessibility.

The role, influence and involvement of individuals varies according to geographical circumstances.

- Approaches to planning: 'trickle down' and 'grass roots' development; consultation, 'self help' and radical approaches to decision making.

Urban systems can be socially, economically and environmentally sustainable.

- Agenda 21; sustainability of the economic base, transport and services, housing and the built environment and the urban physical environment.

Places, Environments and Scales for Study

Local scale studies of the impact of urban growth and decline on the economy, environment and people in cities in the UK, an LEDC and an MEDC.

National scale comparisons of different approaches to urban planning in two contrasting countries.

Selected local scale case studies of contrasting approaches to managing the social, cultural and ethnic changes in city populations.

Two studies at local scale of different approaches to service provision, housing provision and economic planning, with contrasting levels of public involvement in the decision making process.

Local to regional scale studies of two cities chosen from one MEDC and one LEDC, which illustrate the social, economic and environmental problems and the attempts which have been made to resolve them.

Study of the management issues and responses of one 'global city'.

5.5.7 Leisure and Tourism (List B Option)

Rationale

This option draws upon and extends an understanding of human processes established in Module 2688. It identifies the changing patterns of leisure and tourism and investigates the diversity of tourist locations within both MEDCs and LEDCs. It considers the impact of tourism on the economy, society and environment of these locations and the varying strategies which exist for managing tourism and its impact.

Questions for Investigation

How can the different types of tourism and leisure activities be classified?

What factors and processes influence the spatial distribution and location of tourist and leisure facilities?

How have changing social and economic conditions in countries at different states of development influenced the growth of leisure activities and tourism?

What factors influence decisions about the provision of facilities for leisure and tourism?

What are the social, economic and environmental consequences of provision of facilities for leisure and tourism in different parts of the world?

Can leisure and tourism be managed in a sustainable way?

Key Ideas and Concepts

Rising incomes and living standards have led to changes in demand for leisure and tourist provision.

- Increased leisure time and disposable incomes in MEDCs, changing spatial patterns of tourism, the changing fortunes and nature of the holiday resort, the impact of improved transport systems on spatial patterns of tourist provision and flows, the 'pleasure periphery'.

There is a great diversity of leisure provision.

- Provision in rural and urban areas of leisure facilities, local and regional sites, national and international resorts. Heritage tourism, eco-tourism, activity-based tourism, mass tourism.

Tourism has a great impact on environments, communities and economies.

- Pressure on natural systems, pollution, changes to the built environment.
- Short- and long-term impacts of tourism on local cultures and socio-economic conditions, the effects of changing consumer tastes, and inward investments, tourism and development, tourism and the product cycle.

Tourism and leisure activities need careful management.

- Costs and benefits of tourism and leisure developments, conflicts of interest, environmental degradation, reactive and pro-active visitor management, landscape as a resource, environment and heritage conservation policies.

Places, Environments and Scales for Study

The growth of leisure and tourism as a global industry.

Local/regional scale studies of leisure provision within selected urban areas, including the role of the public and private sector.

Local scale studies of the growth, decline, and nature of tourist resorts in the British Isles.

Tourism and its impact in selected rural regions of the British Isles.

Regional scale studies of protected areas such as National Parks in the British Isles, Western Europe, and contrasting parts to the World. Possible impact of tourism on wilderness areas.

National scale comparisons of tourism in the UK with that in two contrasting countries, to include winter sports and sun-and-sand holidays.

Selected local scale case studies of contrasting types of tourist provision and its management.

The role of tourism in the economic development at the national scale of an LEDC.

5.5.8 The Globalisation of Economic Activity (List B Option)

Rationale

This option investigates how economic activity is becoming less localised and increasingly organised transnationally. It is designed to build upon the aspects of human geography studied in Module 2688, and to develop an understanding of the changes talking place in the spatial organisation of production and businesses.

Questions for Investigation

What is meant by ‘globalisation of economic activity’?

How are transnational corporations (TNCs) structured spatially?

What factors have brought about the globalisation of economic activities?

What impact is globalisation having on countries in different states of development?

How far does international trade and aid reinforce global patterns of production?

What is the contribution of transnational corporations to the countries in which they operate?

Key Ideas and Concepts

Changes in transport, communications and information and communication technology are leading to the global scale organisation of economic activity.

- Defining globalisation of economic activity, economic colonialism, the 'shrinking world', the information and communications revolution, economic linkages, vertical integration of production.
- Transnational corporations control output of some major commodities, goods and services.
- Spatial organisation of production in TNCs.

Transnational corporations play a major role in economic development in both MEDCs and LEDCs.

- Government incentives, inward investment, shifting labour markets, impact on local economies.

Global shifts in demand, labour costs and political stability can create economic decline for some regions and countries.

- Reasons for plant closures, impact on employment and the local economy.

Places, Environments, and Scales for Study

A study of a major transnational corporation and its impact at the national and local scale in the countries where it operates.

A study of production systems at the international scale which link production of raw materials or components, manufacturing, and marketing.

The causes of the globalisation of primary production and its impact at the national scale on a chosen developing country.

A case study of inward investment and its impact on a chosen region of the UK.

The operation of transnational corporations in a chosen newly industrialising country.

A study of a service industry using information systems at a global scale.

5.6 Module 2692: Issues in Sustainable Development

C3.1a	**WO3.1, WO3.2, PS3.1, PS3.2, PS3.3.**

Rationale

This module is designed to provide opportunities for investigating key ideas and concepts in resource and land use management through the study of selected resource exploitation and development systems and how resources can best be managed to achieve sustainable development, particularly through the implementation of Agenda 21.

The interaction of people and the environment through the use of the Earth's land and resources, often in an unplanned way, has created resource and environmental issues at a scale from local to global. The growing pressures on land and resources mean that issues of sustainable development are emerging as some of the most urgent issues facing people, planners and governments. These many-sided issues and their resolution have geographical dimensions which make them appropriate for study as the synoptic element of this specification.

In studying the issues, candidates are required to apply geographical skills and ideas to an analysis of the issues. They are also be required to recognise, understand and re-examine their own attitudes and values as well as those of others, and to reach informed opinions.

An analysis of the issues arising from people's use of the earth's resources is only possible if it is underpinned by an understanding of the relevant physical and human processes which underlie them. For this reason the module has been chosen as the basis for synoptic assessment at the end of the Advanced GCE course.

The references included in the illustrative content which follows refer to earlier modules which underpin the issues in sustainable development to be studied.

The data released prior to the examination (in a resource booklet) includes physical and human data and contexts. The tasks require candidates to demonstrate an awareness of the interaction between these contexts and to draw selectively on their knowledge and understanding acquired in previous modules of physical and human processes.

This module provides opportunities for developing and providing evidence for the assessment of the key skills of communication, working with others, and problem solving. For further details see Appendix A.

Questions for Investigation

How can resources be defined and classified?

How can environments be evaluated?

What factors affect the use of resources and environments?

How are decisions about the use of resources and the environment made and how do the values and attitudes of those involved influence them?

What issues arise as a result of conflicting demands on resources and environments?

How far are current systems sustainable?

What strategies exist for achieving sustainable development?

Key Ideas and Concepts

Renewable (flow) and non-renewable (finite) resources need to be managed differently.

- Resource definitions, exploitative versus sustainable management.

Changes in society (technological, economic, and political) may result in changing appraisals of resources and environments, their use, and management.

- The role of resources in economic growth, the impact of technological developments and changes in living standards and lifestyles.

The use of resources and environments may result in local, regional, national and global scale issues.

Habitat loss, pollution, landscape degradation, breakdown of urban and transport systems, water supply issues, air quality and climatic change.

Current forms of development may not be sustainable in the long term.

- Future scenarios: possible outcomes from population changes, rising living standards and consumption. Club of Rome, the Brandt Report, and The Rio Summit.

Achieving sustainability may require radical changes in society.

- Agenda 21, local Agenda 21 waste minimisation, recycling, green capitalism, green politics, the role of planning, and education for the environment.

Illustrative Content

The key ideas and concepts should be exemplified through studies of topics and issues in sustainability at a range of scales from local to global as appropriate, and in particular places and environments.

The topics and issues listed below have been selected because they offer opportunities to examine the key ideas and concepts and to work at a range of scales. They will also be used as the starting point for devising the pre-released data and the questions and tasks which will make up the question paper. The references (ref) included with each topic are not additional content. Instead they refer back to work which has already been undertaken in other modules and which supports the topics listed by providing an understanding of relevant physical and human processes.

- **Global Energy Resources**

Renewable, non-renewable resources; national energy strategies, energy

Distribution, waste, pollution from commercial energy generation and distribution; energy conservation and efficiency.

Ref. Human Systems and their Management (Module 2688). Issues in the Environment (Module 2691): Cold Environments and Human Responses; the Globalisation of Economic Activity.

- **Fresh Water Supplies**

The drainage basin as a unit of water management; water as a marketable commodity; integrated water management; controls and policies; supply and demand; effects on health and welfare.

Ref. Physical Systems and their Management (Module 2687) Study Section A.
Issues in the Environment (Module 2691): Climate and Society; Cold Environments and Human Responses; Tropical Environments and People; Food Supply: Management and Change.

- **The Oceans as a Threatened Resource**

The coral reef ecosystem, its exploitation and destruction; the impact of tourism and its management.

Fish and marine mammal stocks and their maintenance.

Ref. Issues in the Environment (Module 2691): Leisure and Tourism; Food Supply: Management and Change.

- **Soil Degradation**

Causes of; short and long term degradation; solutions to degradation (examples from LEDCs and MEDCs).

Ref. Physical Systems and their Management (Module 2687). Issues in the Environment (Module 2691): Food Supply: Management and Change.

- **Forest Utilisation**

Exploitation and destruction; local and global effects; alternative strategies for management and utilisation.

Ref. Issues in the Environment (Module 2691): Climate and Society; Tropical Environments and People.

- **Air Quality and Health**

Sources of air pollution, regulation and control of pollutants; incidence of respiratory and other air quality related disease. possible management strategies.

Ref. Physical Systems and their Management (Module 2687). Issues in the Environment (Module 2691): Climate and Society.

- **Landscape**

Landscape as a resource under pressure; degradation and possible management strategies. National Government policies and small-scale examples.

Ref. Physical Systems and their Management (Module 2687). Issues in the Environment (Module 2691): Cold Environments and Human Responses; Food Supply: Management and Change; Leisure and Tourism.

- **Transport Policies**

National and Regional Transport policies; Integrated transport policies, fiscal policies; Changing patterns of transport use; Pollution and quality of life.

Ref. Human Systems and their Management (Module 2688); Study section A. Issues in the Environment (Module 2691); Leisure and Tourism

- **Waste Disposal and Minimisation**

Reduction of consumption, disposal of industrial and domestic waste, recycling, research technology, public education and responsibility, local Agenda 21 issues.

Ref. Physical Systems and their Management (Module 2687). Human Systems and their Management (Module 2688);

Further guidance on the conduct of Module 2692 can be found in Appendix D.

6 Further Information and Training for Teachers

To support teachers using these specifications, OCR will make the following materials and services available:

- a full programme of In-Service Training (INSET) meetings;
- specimen question papers and mark schemes;
- past question papers and mark schemes after each examination session;
- coursework guidance materials;
- written advice on coursework proposals;
- individual feedback to each Centre on the moderation of coursework;
- a Report on the Examination, compiled by senior examining personnel, after each examination session.

If you would like further information about these specifications, please contact OCR.

7 Reading List

The resources referred to below may prove useful in delivering AS GCE and Advanced GCE Geography.

The list is not intended to be exhaustive nor does inclusion on the list constitute a recommendation of the suitability of the resource for the specification. The list below contains books that are available in spring 2002. The possibility exists that more up to date texts which have been prepared for the revised GCE specifications may become available. Teachers will need to use their professional judgement in assessing the suitability of the material contained in this list.

Geography Publications

Geofile, Quarterly, Stanley Thomas.

Geography, 3 annually, The Geographical Association.

Geography Review, Quarterly, Philip Allan Publishers.

Teaching Geography, 3 annually, The Geographical Association.

Understanding Global Issues, 10 issues per annum. Understanding Global Issues Ltd. ISSN 1355-2988

Sample Reading List

Candidates should have access for reference purposes to library copies of dictionaries and standard AS/A Level textbooks. The list below gives some examples.

Bishop V, *Hazards and Responses*, 2001, Collins, ISBN 0007114311

Bishop V and Prosser R, *Landform Systems*, 2001, Collins, ISBN 000711432X

Bishop V and Prosser R, *Water Resources: Process and Management*, Collins Educational, 1995, ISBN 000326684

Carr M, Patterns, *Process and Change in Human Geography*, 1997, Nelson, ISBN 017438681

Clowes A and Comfort P, *Process and Landform*, 1982, Oliver and Boyd, ISBN 0050031279

Collard R, *The Physical Geography of Landscape*, 1989, Unwin-Hyman, ISBN 0003222853

Flint C and Flint D, *Urbanisation: Changing Environments*, 1998, Collins, ISBN 0003266877

Guiness P, *Brazil Advanced Case Studies*, 1998, Hodder and Stoughton, ISBN 0340697326

Holmes D and Farbrother D, *A-Z Advancing Geography Fieldwork*, 2000, Geographical Association, ISBN 1899085793

Johnston R ,*Dictionary of Human Geography*, 1994, Blackwells, ISBN 0631181423

Law N and Smith D, *Decision Making Geography*, 1991, Stanley Thornes, ISBN 0748711112

Nagle G, *Hazards*, 1998, Nelson, ISBN 0174900228

Nagle G, *Tourism, Leisure and Recreation*, 1999, Nelson, ISBN 0174447051

Nagle G and Spencer K, *A Geography of the European Union*, 1996, Oxford, ISBN 0199146551

Nagle G and Spencer K, *Geographical Enquiries*, 1997, Stanley Thornes, ISBN 0748728589

Nagle G and Spencer K, *Sustainable Development*, Hodder and Stoughton, ISBN 0340679700

Prosser R et al, *Landmark AS Geography*, 2000, Collins, ISBN 0003265595

Prosser R, *Leisure*, *Recreation and Tourism*, 1994, Collins, ISBN 0003266421

Prosser R, *Managing Environmental Systems*, 1995, Nelson, ISBN 017448223X

Raw M, *Manufacturing Industry: The Impact of Change*, 2000, Collins, ISBN 0003266494

Ross S, *Natural Hazards*, 1998, Stanley Thornes EPICS series, ISBN 0748739513

Selmes I (Ed.), *World Wide - A Core Text*, 1995, Hodder and Stoughton

Skinner M et al, *A-Z Geography Coursework Handbook*, 1999, Hodder and Stoughton, ISBN 0340730471

Small and Witherick, *A Modern Dictionary of Geography*, 1995, Hodder and Stoughton, ISBN 0340603399

St John P and Richardson D, *Methods of Statistical Analysis of Fieldwork Data*, 1996, Geographical Association, ISBN 1899085165

St John P and Richardson D, *Methods of Presenting Fieldwork Data*, 1997, Geographical Association, ISBN 1899085491

Warn S, *Recreation and Tourism*, 1999, Stanley Thornes, ISBN 0748744185

Warburton P, *Atmospheric Processes and Human Influence*, 2001, Collins, ISBN 0007114303

Witherick M, *Environment and People*, 1995, Stanley Thornes, ISBN 0748721207

Appendix A

Key Skills

These Geography specifications provide opportunities for the development of the Key Skills of Communication, Application of Number, Information and Communication Technology, Working With Others, Improving Own Learning and Performance and Problem Solving as required by QCA's subject criteria for Geography.

Through classwork, coursework and preparation for external assessment, candidates may produce evidence for Key Skills at Level 3. However, the extent to which this evidence fulfils the requirements of the QCA Key Skills specifications at this level will be dependent on the style of teaching and learning adopted for each module. In some cases, the work produced may meet the evidence requirements of the Key Skills specifications at a higher or lower level.

Throughout section 5 the symbol  is used in the margin to highlight where Key Skills development opportunities are signposted. The following abbreviations are used to represent the above Key Skills:

C = Communication

N = Application of Number

IT = Information Technology

WO = Working with Others

LP = Improving Own Learning and Performance

PS = Problem Solving

These abbreviations are taken from the QCA Key Skills specifications for use in programmes starting from September 2000. References in section 5 and Appendix A , for example IT3.1, show the Key Skill (IT), the level (3) and subsection (1).

Centres are encouraged to consider the OCR Key Skills scheme to provide certification of Key Skills for their candidates.

Detailed opportunities for generating Key Skills evidence through this specification are posted on the OCR website, www.ocr.org.uk

Key Skills Coverage

For each module, the following matrix indicates those Key Skills for which opportunities for at least some coverage of the relevant Key Skills unit exist.

	Communication	Application of Number	IT	Working with Others	Learning Performance	Problem Solving
Module	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3
2687	✓	✓			✓	✓
2688	✓				✓	✓
2689	✓	✓	✓	✓	✓	✓
2690	✓	✓	✓		✓	✓
2691	✓				✓	
2692	✓			✓		✓

Appendix B

Guidance on Preparation for Module 2689: Geographical Investigations 1

All candidates complete a report of not more than 1500 words which is a commentary on, and evaluation of, field work investigation(s) they have undertaken as part of studying Modules 2687 and 2688. Not more than two A4 size figures may be included to demonstrate the candidate's presentational skills and to illustrate key aspects of the investigation(s). Candidates are required to bring this report (Section A of the External Assignment) to the Controlled Conditions session, where Section B is completed and submit it with their answer to Section B.

The report must be accompanied by a brief description of not more than 100 words, supplied by the Centre, which summarises the work on which the report is based. The purpose of this description is to provide the examiner with an outline of the work undertaken, which may be common to all candidates in a Centre. It also removes the need for the candidate to use up part of the word allocation in describing what was done. The candidates should concentrate on:

- how and why decisions were made about the design, conduct and presentation of the investigation(s);
- the outcomes of the investigation(s);
- an evaluation of the investigation(s).

The report may be based on two or more short pieces of work or a single, longer, piece. Whichever route is taken, it is important for the candidate to have had experience of planning and carrying out short investigations based on field work. Investigations may be based upon an extended field course or short excursions from the Centre.

This is the opportunity for candidates to demonstrate their skills in investigation through first hand data collection as required by the QCA subject criteria. In addition to the outline given in the specification section 5.3, teachers might consider the following questions.

When should the 1500 word report be written?

The specification encourages an investigative approach to the teaching of all the modules. It is important that as many opportunities as possible are taken to develop enquiry skills within teaching time as well as part of preparation for and during field excursions. The report should also build on Modules 2687 and 2688 so it would be advisable to plan for its completion relatively late in the AS programme. Depending on the assessment session chosen and the class/independent study time available, the more investigative work the candidate has experienced in the field, the more they will be able to undertake a critical review.

How should the topics for investigation in the field be chosen?

Topics should be chosen from those within Modules 2687 and 2688 which are best delivered through fieldwork, and be appropriate to the locations they have access to.

Is guidance given by OCR?

There are no formal procedures for approval or guidance, mainly because each Centre will wish to relate fieldwork activities to its own teaching programme. However written advice may be obtained from OCR.

Suggestions of suitable topics for investigation based on the content of Modules 2687 and 2688 appear below.

The Questions for Investigation at the start of each module could be suitable starting points for candidates to devise more specific questions. Selected at an appropriate scale for study, they could include questions such as:

- How do micro-climates at a chosen site vary?
- How does management affect the natural processes in a local stream?
- How have landforms been influenced by management schemes along a stretch of coast?
- What recent changes have occurred in the local area: its CBD/ industrial estate/residential areas? What impact have they had?
- How do spheres of influence of different local services vary?
- How does environmental quality vary across an area?
- How has bus deregulation affected services in rural or urban areas?
- What changes are taking place around the fringe of town X?

Can the report be based on group investigations?

Investigative work in the field should develop and extend the study of Modules 2687 and 2688. These modules present a wide range of opportunities for group data collection or for individuals to develop their own investigations. Not all candidates will be ready to undertake personal investigations during the AS course and there are positive advantages to group investigations which include the sharing of ideas on planning investigations, the economical collection of data and the discussion of findings. It is important however that the individual candidate's 1500 word report is a personal commentary on the work undertaken.

How can the report contribute to the acquisition of Key Skills?

The 1500 word report contributes to the assessment of the Key Skill of Communication as required by the Subject Specific Criteria. There are also opportunities for candidates to develop the other Key Skills of;

- Application of number, e.g. by processing statistical data,
- IT, e.g. by extracting data from a web site and by word processing the report,
- Working with Others, e.g. by planning a sequence of enquiry in a group and by group collection of data in the field,
- Improving Own Learning and Performance, e.g. by undertaking a small scale personal investigation,
- Problem Solving, e.g. by finding solutions to practical difficulties encountered during field work.

These opportunities need to be borne in mind when planning the way in which the investigative work is undertaken and when giving advice to candidates when they are producing their report.

Appendix C

Guidance on the Conduct of Module 2690: Geographical Investigations 2

Module 2690 extends the investigative work undertaken as part of the AS course by requiring the candidate to undertake a personal investigation into a topic derived, normally, from the specification content. The investigations could have their origins in small group discussions about common themes such as changes in the inner city, national parks, or energy policies in which ideas for further study and enquiry approaches are considered. Group data collection may also be undertaken where there are special advantages to be gained: for instance, by making comparative data available which would extend the scope of individual investigations.

However, the titles chosen by individual candidates in a Centre must be distinctive, and the procedures and design must be based on the candidate's own decisions. Where collaboration is involved in the early stages of the investigation, this must be recorded and justified.

Because data collection in the field is a requirement of Module 2689, Geographical Investigations 1, it is possible for Module 2690 Geographical Investigations 2 to be based on other primary or secondary data but if this approach is adopted, significant use must be made of Information and Communication Technology to collect, process, analyse and present data. This option makes it possible to investigate topics on a regional, national or international scale and to use a variety of data-bases and printed secondary sources. Candidates following the fieldwork route are **not** precluded from making use of Information and Communication Technology where appropriate.

The investigation could be a continuation and development of a topic previously investigated in Module 2689, or an entirely different piece. It could explore an aspect of the chosen physical or human option in Module 2691 or one of the issues in sustainable development from Module 2692.

If the ICT rather than the field work route is followed, it could be based on primary data or secondary material researched through the Internet, thus broadening the scope for study to include issues in other countries, particularly the EU or possibly LEDCs. Centres may have started their own international links which could explore similarities and differences on appropriate topics common to both centres or use the various packages of data and census material available.

To produce an investigation which meets the requirements of the Information and Communication Technology route, candidates need to undertake all, or most, of the following activities:

- select and extract information from electronic sources such as e-mail, the internet, direct fax, CD-ROM
- select and use appropriate software, for example spreadsheets, data bases, word processing and desk top publishing packages, multi-tasking applications
- edit and process information, making calculations where necessary

- combine information from different source
- present information in a manner best meeting the requirements of the investigation
- use appropriate hardware to produce hard copies
- use appropriate methods of saving and storing information electronically.

Module 2690 (Geographical Investigations 2) carries 15% of the total marks for Advanced GCE and is marked out of 90 marks. Of this total, 27 marks are available for understanding and 63 for skills in techniques (including the Key Skill of Communication) in accordance with the assessment objectives in Section 3.

The assessment criteria below are common to the fieldwork and Information and Communication Technology based investigations. They interpret the assessment objectives at three levels and take account of the Key Skills requirements, especially in relation to Communication Skills.

Guidance on the planning of Geographical Investigations 2

There are no formal procedures for approval of or guidance on individual investigations. However written advice may be obtained from OCR.

Candidates are strongly advised to draw up a plan for their investigation whichever route they take which includes:

- identification of a question or issue for investigation leading to a title for the investigation;
- identification of relevant sources of information, their definition, potential and limitations;
- identification of the scale, time and place of the investigation;
- identification of the geographical dimensions of the investigation and where they fit within the broader fields of study in the subject;
- identification of the ways in which relevant information is to be collected and recorded including sampling strategies if appropriate;
- how the information may be tabulated, processed and represented including appropriate maps and diagrams;
- proposals for the analysis of information including statistical techniques if appropriate;
- provisional framework for the writing of the report and time scale for its completion;
- awareness of potential errors or bias in the information and ways in which these might be reduced;
- ways in which conclusions might be reached in relation to the original question.

Geographical Investigations 2 - Mark Scheme

Skills:

Investigation design and data collection	21 marks
Data recording, processing and presentation	21 marks
Data analysis and evaluation of methods	21 marks

Understanding:

Geographical understanding and application of knowledge and critical understanding to unfamiliar content	27 marks

Where the candidate meets all the requirements of Advanced GCE, full marks for that level should be awarded. An intermediate mark within the mark band should be awarded if the candidate meets some of the requirements of the level and the relevant ones from the level below.

The criteria listed below are not exhaustive. Candidates may show other abilities than those described below. These should be accepted, providing they are relevant to the title and are a reasonable interpretation of the assessment objectives.

Investigation design and data collection (21 marks)

Level 1 (1-7 marks)

The candidate:

- chooses to investigate a familiar issue and shows evidence of planning the investigation by identifying appropriate geographical questions;
- adopts an existing procedure to design an adequate data collection programme, by selecting some appropriate methods and techniques;
- collects largely relevant but limited range of data from first hand or Information and Communication Technology sources; the range of data sources is somewhat limited in type and/or breadth. Sample size, for example, might be an inadequate basis for geographical analysis;
- the techniques used for data collection are limited in depth with, for example, surveys or searches that are superficial in detail;
- employs sampling procedures or searches that are implicitly, rather than explicitly, explained;
- selects and reads relevant material by drawing upon least two extended easily available secondary sources (one of which contains at least one image) about a relevant straightforward subject.

Level 2 (8-14 marks)

The candidate:

- identifies a context for the investigation and a clear focus within it for study;
- identifies a range of relevant data, collecting a good range of appropriate data in the field or from Information and Communication Technology sources, from primary and/or secondary sources;
- selects and reads material from at least two extended documents (one of which contains images), dealing with a relevant, complex subject; **C3.2**
- selects different sources and methods for data collection;
- designs a well structured data collection programme that is modified, in the light of any problems or developments; the programme uses appropriate sampling or research procedures, in terms of size and type;
- collects a range of relevant data in the field or from Information and Communication Technology sources, searches for and uses evidence from secondary sources;
- shows perseverance and initiative in completing the task.

Level 3 (15-21 marks)

The candidate:

- identifies a context for the investigation and selects and justifies the best focus for study;
- identifies all the relevant data needed;
- selects a variety of sources, and methods of collecting data appropriate to the focus;
- systematically, and with accuracy, collects a range of relevant data in the field or from Information and Communication Technology sources;
- researches several secondary sources and incorporates evidence from the relevant ones;
- shows initiative, imagination and problem solving skills in developing the investigation.

Data recording, processing and presentation (21 marks)

Level 1 (1-7 marks)

The candidate:

- records and presents information in some appropriate forms, but with a limited range of tables, maps, graphs and other diagrams; insufficient attention to detail;
- makes little attempt to process data collected;
- presents relevant information in an appropriate form, using a structure and style of writing to suit the purpose of the investigation ; this must include an acknowledgement of all sources;

- uses a limited range of geographical forms of presentation (including at least one image;
- identifies accurately the line of reasoning and main points from text and images in the documents and summarises the information to suit the purpose of the investigation;
- ensures text is legible and that spelling, punctuation and grammar are accurate, so that the meaning is clear.

Level 2 (8-14 marks)

The candidate:

- uses appropriate techniques to present the data; tables, maps, graphs and other diagrams are completed with some attention to detail;
-  organises relevant information clearly and coherently, using geographical terminology when appropriate; **C3.3**
-  uses a selection of geographical forms of presentation (including at least one image) **C3.3**
- makes a good attempt at processing the data collected;
-  selects and uses a form and style of writing that is appropriate to the investigation and complex subject matter. This must include an acknowledgement of all sources; **C3.3**
-  identifies accurately, and compares, the lines of reasoning and main points from the texts and images and synthesises the key information in a form that is relevant to the investigation; **C3.3**
-  ensures text is legible and spelling, grammar and punctuation and accurate so that the meaning is clear. **C3.3**

Level 3 (15-21 marks)

The candidate:

- shows initiative and uses a wide range of appropriate techniques to record and present the data;
- processes information carefully and presents it in the form of tables, maps, graphs and other diagrams which are completed accurately and - where appropriate - visually, in order to communicate effectively;
- makes a good attempt at processing the data collected;
- sequences the investigation in a logical and clear way and presents it in good English, using geographical terminology, maps and other graphic forms of presentation with confidence;
- uses an appropriate structure and style writing effectively. This must include an acknowledgement of all sources.

Data analysis and evaluation of methods (21 marks)

Level 1 (1-7 marks)

The candidate:

- identifies some simple relationships within the data and provides an explanation for them;
- describes and explains some patterns or relationships, but without being analytical;
- evaluates the investigation in terms of its success or failure in relation to the original goals and how it could be improved.

Level 2 (8-14 marks)

The candidate:

- undertakes analysis and evaluation in the investigation, but is not concise;
- uses different techniques to analyse the data collected;
- uses relevant concepts and theories to arrive at conclusions;
- can identify error and bias where it appears in collected information;
- evaluates the outcomes of the investigation in terms of its strengths and weaknesses and ways of refining it.

Level 3 (15-21 marks)

The candidate

- analyses and evaluates the investigation in a concise manner;
- interprets and analyses the data to arrive at meaningful and supportable conclusions;
- makes perceptive observations and intelligent analysis of all results, using a wide range of different techniques;
- understands the value of the collected evidence to the focus of the investigation, as well as its limitations;
- is perceptive in the evaluation of error and bias where it appears in collected information;
- evaluates the conduct of the investigation in terms of the original goals, the reliability, validity and usefulness of the findings, and how it might be extended; justifies the selection of data to be collected, the methods of collection and presentation to be used.

Geographical understanding and application of knowledge and critical understanding to unfamiliar content (27 marks)

Level 1 (1-9 marks)

The candidate:

- demonstrates some understanding of the principles and methodology of geographical investigation;
- uses the investigation to apply familiar procedures in a new location;
- comments on outcomes in largely descriptive terms;
- applies limited geographical knowledge and understanding to the chosen context;
- applies a single or limited number of concepts or theories to the explanation of outcomes;
- attempts conclusions on some or all aspects of the investigation.

Level 2 (10-19 marks)

The candidate:

- demonstrates a sound understanding of the principles and methodology of geographical investigation;
- presents explanations that demonstrate good understanding of the patterns, trends and geographical ideas in the investigation;
- applies a good geographical knowledge and understanding to the chosen context;
- shows an understanding of the wider relevance of the investigation;
- shows an understanding of a range of concepts and theories in the interpretation of the evidence.
- shows an understanding of how a familiar investigation could be extended or developed;

Level 3 (20-27 marks)

The candidate:

- demonstrates an impressive understanding of the principles and methodology of geographical investigation, and understands the purposes and limitations of the data collection and processing techniques employed;
- recognises the geographical dimensions of the investigation, as well as its wider relevance; applies a number of concepts and theories to the interpretation of the evidence;
- applies an impressive geographical knowledge and understanding to the chosen context;
- understands that there may be alternative interpretations of the evidence;
- identifies and explains any unique aspects of the investigation results, as well as the expected or typical results;
- is able to draw concise conclusions from the information analysed;
- understands how different elements of geography may be relevant to the investigation.

Appendix D

Guidance on the Assessment of Unit 2692: Issues in Sustainable Development

The aim of the Issues in Sustainable Development question paper as the synoptic assessment is to provide candidates with the opportunity to draw upon skills and their understanding of the physical, human and environmental content of the specification to analyse, comment critically upon and suggest possible resolutions of issues in sustainability which have a geographical dimension.

The assessment is based on a resource booklet which will be available for study by March 21st prior to the examination. This should allow time for both teacher directed and independent learning.

The resource booklet contains information on an issue selected each year to focus on one or more of those listed for study in the module specification (section 5.6).

The resource booklet contains a variety of types of data which may include:

- maps and diagrams
- photographs
- statistics and statistical diagrams
- articles from different sources
- remotely sensed images.

These provide the basis for skills-based questions and the information on specific issues needed by the candidate to answer other questions. Candidates are also expected to use their knowledge and understanding of key ideas and concepts drawn from across the specifications to analyse issues and to suggest and evaluate options for their resolution.

The tasks in the specimen paper have been set to assess:

- the content of Module 2692 (Issues in Sustainable Development);
- the connections between the different elements of geography;
- the ability to synthesise geographical information from various sources, and from other parts of the Advanced GCE course.

All candidates have followed AS Modules 2687 and 2688 and should therefore be able to show an understanding of how physical and human processes and their management are relevant to sustainable development. Depending on which options were followed in Module 2691, candidates may draw upon a variety of ideas and case studies in their answers. They will be credited for the effectiveness of the way in which they use them in their responses.