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NEW SOUTH WALES

Geography

Stage 6 Syllabus

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1 The Higher School Certificate Program of Study

The purpose of the Higher School Certificate program of study is to:

- provide a curriculum structure which encourages students to complete secondary education;
- foster the intellectual, social and moral development of students, in particular developing their:
 - knowledge, skills, understanding and attitudes in the fields of study they choose
 - capacity to manage their own learning
 - desire to continue learning in formal or informal settings after school
 - capacity to work together with others
 - respect for the cultural diversity of Australian society;
- provide a flexible structure within which students can prepare for:
 - further education and training
 - employment
 - full and active participation as citizens;
- provide formal assessment and certification of students' achievements;
- provide a context within which schools also have the opportunity to foster students' physical and spiritual development.

2 Rationale for Geography in Stage 6 Curriculum

Geography is an investigation of the world which provides an accurate description and interpretation of the varied character of the earth and its people. It is a key discipline through which students develop the ability to recognise and understand environmental change and the interactions which take place in our world.

Geography has many dimensions, two of which are emphasised in this syllabus:

- the ecological dimension considers how humans interact with environments
- the spatial dimension focuses on where things are, why they are there and how people interact differently with environments in different places.

Geographers investigate the opportunities for human activities, the constraints placed upon them and the impacts of these activities. The study of Geography allows students to perceive the world in a variety of ways and helps them make sense of a complex and changing world.

In this syllabus the term environment describes the 'total surroundings'. It includes biophysical interactions as well as people in their cultural, social, political and economic contexts. Geographers explore the spatial dimensions of environments examining linkages, flows, associations and patterns. Perceptions of the environment are also influenced by personal experience and information gained from the media and other information technology. These perceptions influence the way people interact with their surroundings affecting our use of resources, environmental management and our attitudes towards sustainability.

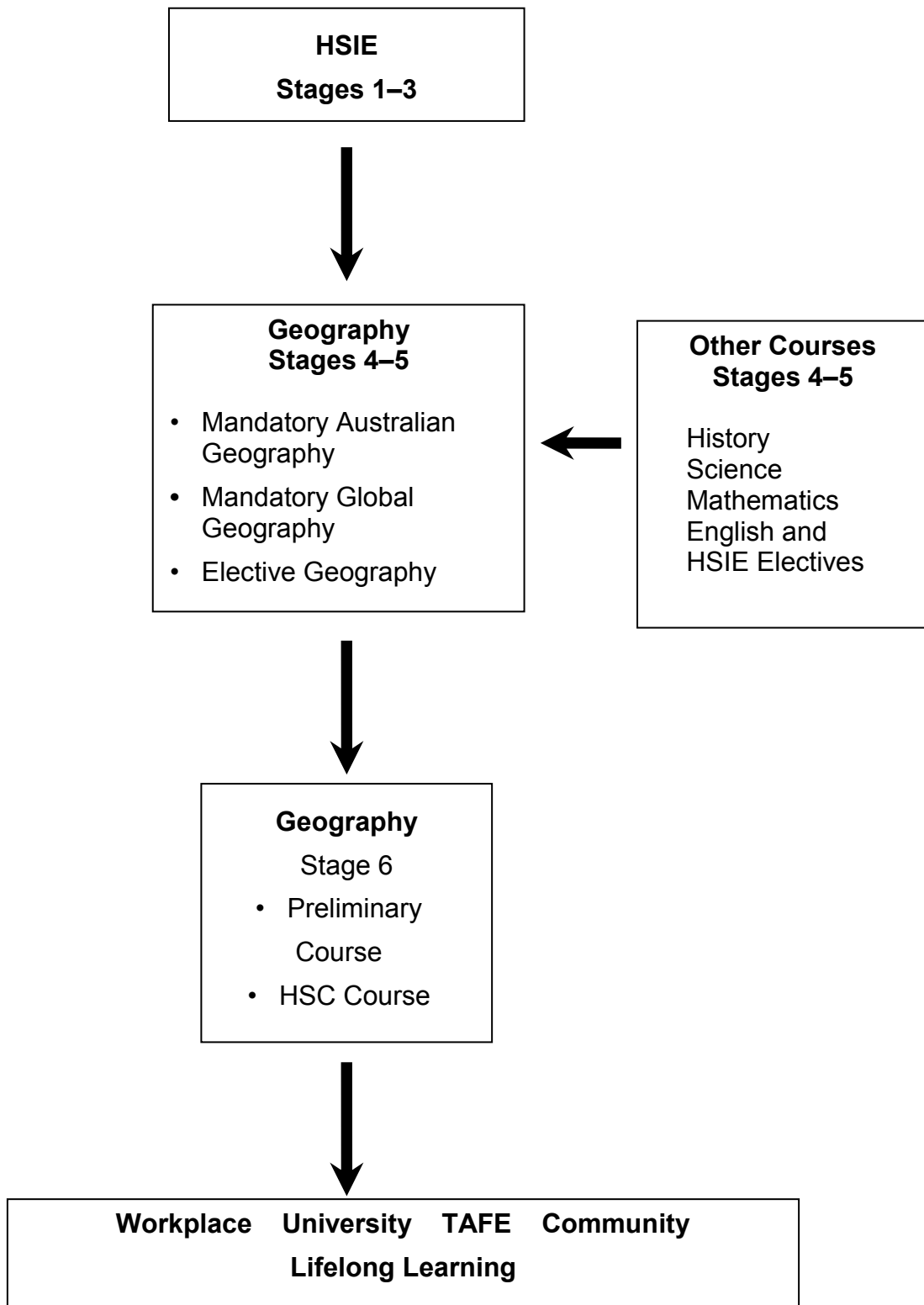
Geography is a life-long interest, stimulating a natural curiosity about how and why the world's people and their environments are so varied. There are four primary reasons why students should study the subject of Geography:

- by definition, Geography provides knowledge of the earth and helps people to plan and make decisions about the spatial dimensions of the world
- Geography provides an intellectual challenge to reach a deeper understanding of the variable character of life on our planet
- with a strong grasp of Geography, students are well prepared to explore issues as informed citizens in a changing world
- students of Geography develop skills and understandings transferable and applicable to the world of work.

Studies in both physical and human geography provide an important information base on which students investigate contemporary geographical issues to explore why spatial and ecological differences exist, the importance of effective management and how they may take an active role in shaping future society.

Clarifying, analysing, acquiring and judging values and attitudes allows students to respond to geographical issues, questions and problems. Studying Geography Stage 6 prepares students for post-school studies and future employment, and for active participation as informed citizens.

3 Continuum of Learning for Geography Stage 6 Students



4 Aim

The aim of Geography Stage 6 is to enable students to study the spatial and ecological dimensions of biophysical and human phenomena in a changing world.

5 Objectives

Through the study of Geography Stage 6, students will develop

knowledge and understanding about:

- the characteristics and spatial distribution of environments
- the processes that form and transform the features and patterns of the environment
- the global and local forces which impact on people, ecosystems, urban places and economic activity
- the contribution of a geographical perspective;

skills to:

- investigate geographically
- communicate geographically;

and informed and responsible **values and attitudes** towards:

- ecological sustainability
- a just society
- ethical research practices
- active and informed citizenship
- responsible, autonomous life-long learning.

6 Course Structure

The Geography Stage 6 Syllabus consists of a Preliminary course and a HSC course.



Preliminary Course 120 indicative hours	HSC Course 120 indicative hours
Biophysical Interactions (45% of course time – 54 hours)	Ecosystems at Risk (33.3% of course time – 40 hours)
Global Challenges (45% of course time – 54 hours)	Urban Places (33.3% of course time – 40 hours)
Senior Geography Project (10% of course time – 12 hours)	People and Economic Activity (33.3% of course time – 40 hours)

In both courses the order of topics is not prescriptive and may be influenced by students' needs, interests and access to fieldwork sites and/or resources.

Prior Learning

By Stage 6, students will already have learned a great deal about the world's people and their environments. This prior learning must be considered before a program is planned.

- **Stage 5 Mandatory Geography**
The Fieldwork Task undertaken in Stage 5 Mandatory Geography develops essential skills which are later refined and built upon in the Senior Geography Project (SGP).
- **Stage 5 Elective Geography**
The Elective course includes five focus areas, any two of which are selected for study. Environments at Risk, World Political Geography and Development Geography provide a sound basis for topics in Geography Stage 6. Not all students will have undertaken the Elective course of study in Geography.
- **Stage 5 Science**
The *Science Stages 4–5 Syllabus* has prescribed content about the nature and functioning of the biophysical environment and the implications of scientific processes on humans and the environment. These ideas and concepts complement the subject matter contained in the *Geography Stage 6 Syllabus*.

7 Objectives and Outcomes

7.1 Table of Objectives and Outcomes

Objectives	Preliminary Course Outcomes	HSC Course Outcomes
<p>The student will develop knowledge and understanding about:</p> <ul style="list-style-type: none"> • the characteristics and spatial distribution of environments • the processes that form and transform the features and patterns of the environment • the global and local forces which impact on people, ecosystems, urban places and economic activity • the contribution of a geographical perspective 	<p>The student:</p> <p>P1 differentiates between spatial and ecological dimensions in the study of geography</p> <p>P2 describes the interactions between the four components which define the biophysical environment</p> <p>P3 explains how a specific environment functions in terms of biophysical factors</p> <p>P4 analyses changing demographic patterns and processes</p> <p>P5 examines the geographical nature of global challenges confronting humanity</p> <p>P6 identifies the vocational relevance of a geographical perspective</p> <p>P7 formulates a plan for active geographical inquiry</p>	<p>The student:</p> <p>H1 explains the changing nature, spatial patterns and interaction of ecosystems, urban places and economic activity</p> <p>H2 explains the factors which place ecosystems at risk and the reasons for their protection</p> <p>H3 analyses contemporary urban dynamics and applies them in specific contexts</p> <p>H4 analyses the changing spatial and ecological dimensions of an economic activity</p> <p>H5 evaluates environmental management strategies in terms of ecological sustainability</p> <p>H6 evaluates the impacts of, and responses of people to, environmental change</p> <p>H7 justifies geographical methods applicable and useful in the workplace and relevant to a changing world</p>

Objectives	Preliminary Course Outcomes	HSC Course Outcomes
<p>The student will develop skills to:</p> <ul style="list-style-type: none"> • investigate geographically • communicate geographically 	<p>The student:</p> <p>P8 selects, organises and analyses relevant geographical information from a variety of sources</p> <p>P9 uses maps, graphs and statistics, photographs and fieldwork to conduct geographical inquiries</p> <p>P10 applies mathematical ideas and techniques to analyse geographical data</p> <p>P11 applies geographical understanding and methods ethically and effectively to a research project</p> <p>P12 communicates geographical information, ideas and issues using appropriate written and/or oral, cartographic and graphic forms</p>	<p>The student:</p> <p>H8 plans geographical inquiries to analyse and synthesise information from a variety of sources</p> <p>H9 evaluates geographical information and sources for usefulness, validity and reliability</p> <p>H10 applies maps, graphs and statistics, photographs and fieldwork to analyse and integrate data in geographical contexts</p> <p>H11 applies mathematical ideas and techniques to analyse geographical data</p> <p>H12 explains geographical patterns, processes and future trends through appropriate case studies and illustrative examples</p> <p>H13 communicates complex geographical information, ideas and issues effectively, using appropriate written and/or oral, cartographic and graphic forms</p>

7.2 Key Competencies

Geography provides a powerful context within which to develop general competencies considered essential for the acquisition of effective, advanced thinking skills necessary for further education, work and everyday life.

Key competencies are embedded in the *Geography Stage 6 Syllabus* to enhance student learning.

The key competencies of ***collecting, analysing and organising information*** and ***communicating ideas and information*** reflect core processes of geographical inquiry and are explicit in the objectives and outcomes of the syllabus.

The other key competencies are developed through the methodologies of the syllabus and through classroom teaching.

- Students working as individuals and as members of groups to conduct geographical inquiries and develop the key competencies ***planning and organising activities*** and ***working with others and in teams***.
- When students construct, read and interpret maps, analyse statistical evidence and construct tables and graphs, they are developing the competency ***using mathematical ideas and techniques***.
- During investigations, students will need to use appropriate information technologies, developing the competency ***using technology***.
- Finally, the exploration of issues and the investigation of the nature of spatial and ecological problems contributes towards students' development of the key competency ***solving problems***.

7.3 Course Overview

Preliminary Course Overview

Aim	Studying the spatial and ecological dimensions of biophysical and human phenomena in a changing world		
Topic	BIOPHYSICAL INTERACTIONS	GLOBAL CHALLENGES	SENIOR GEOGRAPHY PROJECT
Time	54 indicative hours	54 indicative hours	12 indicative hours
Focus	Geographical investigation of biophysical processes and how an understanding of these processes contributes to sustainable management	Geographical study of the social, cultural, political, economic and environmental challenges which are occurring at the global scale	The nature of geographical inquiry and its application to a practical research project
Outcomes	P1, P2, P3, P6, P7, P8, P9, P10, P12	P1, P4, P5, P6, P7, P8, P9, P10, P12	P7, P8, P9, P10, P11, P12
Content	<p>Investigating and communicating geographically</p> <p>Nature and functioning of the four components of the biophysical environment</p> <p>The interactions between, and the human impacts on, the functioning of the atmosphere, hydrosphere, lithosphere and biosphere</p> <p>A case study of ONE issue to illustrate how an understanding of biophysical processes contributes to sustainable management</p>	<p>Investigating and communicating geographically</p> <p>Population geography: the changing nature, rate and distribution of the world's population</p> <p>Any TWO studies chosen from:</p> <p>Cultural Integration</p> <p>Political Geography</p> <p>Development Geography</p> <p>Natural Resource Use</p>	<p>Investigating and communicating geographically</p> <p>The nature of geographical inquiry and the ethical responsibilities of researchers</p> <p>Designing and conducting geographical research</p>

HSC Course Overview

Aim	Studying the spatial and ecological dimensions of biophysical and human phenomena in a changing world		
Topic	ECOSYSTEMS AT RISK	URBAN PLACES	PEOPLE & ECONOMIC ACTIVITY
Time	40 indicative hours	40 indicative hours	40 indicative hours
Focus	Geographical study of the functioning of ecosystems at risk, their management and protection	Geographical study of world cities, mega cities and the dynamics of large cities and urban places	Geographical study of economic activity integrating the local and the global context
Outcomes	H1, H2, H5, H6, H7, H8, H9, H10, H11, H12, H13	H1, H3, H5, H6, H7, H8, H9, H10, H11, H12, H13	H1, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13
Content	<p>Investigating and communicating geographically</p> <p>Ecosystems and their management including the functioning of ecosystems and their vulnerability and resilience</p> <p>The importance of, and the need for, management strategies</p> <p>Case studies of two different ecosystems at risk: their unique characteristics, the human impacts which influence them and traditional and contemporary management practices</p>	<p>Investigating and communicating geographically</p> <p>The nature, character and spatial distribution of world cities and mega cities</p> <p>The challenges of sustainable living in mega cities and responses to these challenges</p> <p>Urban dynamics of change in large cities</p> <p>Case studies of a large city from the developed world and a local area, to investigate urban dynamics</p>	<p>Investigating and communicating geographically</p> <p>The nature, spatial patterns and future directions of economic activity</p> <p>The environmental and social impacts of economic activity</p> <p>Case studies of an economic activity on a global scale and an economic enterprise at a local scale</p>

8 Content

8.1 Geographical Inquiry Methodologies

Geographical inquiry is fundamental to all topics in the Preliminary and HSC courses. Students should be proficient in understanding and applying a range of geographical tools and skills so that they can become critical and creative thinkers about contemporary geographical questions and issues.

Geographical Investigation and Communication

Students learn to investigate geographically by:

- formulating a plan and asking and addressing geographical questions for active inquiry: What is there? Where is it? Why is it there? What are the effects of it being there? How is it changing over time? Should it be like this? What will it be like in the future?
- identifying and discriminating between relevant sources of geographical information and geographical tools including maps, graphs and statistics, photographs and fieldwork
- abstracting, analysing and synthesising information from a variety of sources and a variety of perspectives including gender, intercultural, socioeconomic, religious and the perspectives of indigenous people
- applying their knowledge and understanding to contemporary issues.

Students learn to communicate geographically by:

- defining the purposes of, and audiences for, communication such as teachers, peers, examiners, parents, carers, community organisations, local libraries, competition adjudicators, media organisations
- presenting information in the form of both oral and written reports accompanied by maps, diagrams, tables, graphs and photographs
- using appropriate information technologies and electronic media
- presenting information in short and extended response form using appropriate written formats
- evaluating the effectiveness of different forms of communication.

Geographical Tools and Skills

These Stage 6 geographical tools and skills build from those developed in Geography Stages 4–5. Stage 6 tools and skills are assessed in the HSC examination.

Students learn to interpret maps by:

- calculating the gradient of a slope as a ratio
- calculating the vertical exaggeration of a cross-section
- determining sight lines between two points
- constructing a transect between two points and describing the changes along it
- identifying spatial interaction and change using a variety of sources
- describing patterns, relationships, networks, linkages and evidence of change within and between regions or areas
- determining the density of a specific feature on a map
- reading, constructing and interpreting choropleth maps
- recognising the key features of changing pressure patterns on weather maps
- designing and interpreting flowcharts.

Students learn to analyse graphs and statistics by:

- calculating the rate of increase or decrease between two points
- estimating the value of proportional circles of different size using a key
- estimating the value of particular segments in pie graphs of different size
- identifying the three elements depicted in a ternary graph and the line scale of each
- stating the 'mix' of elements at any point on a ternary graph
- identifying clusters and patterns on a ternary graph
- constructing and interpreting proportional divided circles
- interpreting frequency distributions and diagrams
- reading and interpreting logarithmic and semilogarithmic graphs
- interpreting and analysing population pyramid data.

Students learn to interpret photographs by:

- orientating a photo to a map
- estimating the scale of aerial photographs and satellite images
- estimating the time of day at which a photograph was taken
- calculating areas of land use as a ratio
- identifying spatial associations, interactions and change
- constructing a precis map from an aerial photograph or satellite image
- using Geographic Information Systems (GIS) to examine spatial and ecological issues.

Students learn to conduct fieldwork by:

- formulating a geographical question or issue for study
- identifying, collecting and recording geographical data from a variety of primary sources
- constructing a log of events and activities, which records the development of a fieldwork activity
- synthesising data and evaluating the fieldwork activity.

NOTE: *These skills and tools may be applied and assessed in any of the course topics. Examples of their application are provided in each of the Preliminary and HSC topics.*

8.2 Preliminary Course

8.2.1 Biophysical Interactions

Time Allocation: 54 indicative hours

The focus of this study is a geographical investigation of biophysical processes and how an understanding of these processes contributes to sustainable management.

Outcomes

The student:

- P1 differentiates between spatial and ecological dimensions in the study of geography
- P2 describes the interactions between the four components which define the biophysical environment
- P3 explains how a specific environment functions in terms of biophysical factors
- P6 identifies the vocational relevance of a geographical perspective
- P7 formulates a plan for active geographical inquiry
- P8 selects, organises and analyses relevant geographical information from a variety of sources
- P9 uses maps, graphs and statistics, photographs and fieldwork to conduct geographical inquiries
- P10 applies mathematical ideas and techniques to analyse geographical data
- P12 communicates geographical information, ideas and issues using appropriate written and/or oral, cartographic and graphic forms.

Content

Students learn to:

investigate and communicate geographically by

- asking and addressing geographical questions such as
 - what are the biophysical interactions which occur between components of the biophysical environment?
 - what are the effects of human impacts on the functioning of the hydrosphere?
 - how is the biophysical environment changing in response to climatic variations?

use geographical skills and tools such as

- constructing and interpreting flow charts describing the key biophysical processes operating within a given area
- identifying, collecting and recording data about erosion and deposition from primary sources
- constructing a transect to describe the variety and distribution of plants in a specific area
- planning a field work activity to assess the impacts of flood or drought

- interpreting ternary graphs to describe elements of biodiversity or soil variation
- recognising the key features of changing weather patterns to describe atmospheric processes in a given location.

identify geographical methods applicable to, and useful in, the workplace such as

- contributing to Environmental Impact Assessments
- collecting and analysing field data
- environmental mapping
- the relevance of a geographical understanding of biophysical interactions to a particular vocation such as: planning hazard mitigation, practising environmental law, meteorological forecasting, local council maintenance of coastal areas.

Students learn about:

the biophysical environment

- the nature and functioning of the four components: the atmosphere, hydrosphere, lithosphere and biosphere in a specific biophysical environment including:
 - atmospheric processes, climatic components, climatic variation
 - operation of the water cycle and the role of water in geomorphological processes
 - parent material, slope processes, weathering, mass movements, erosion, transport and deposition, and the fluvial, aeolian and/or coastal geomorphological processes
 - the variety and distribution of plants and animals and soil formation
- the interactions between, and the human impacts on, the functioning of the atmosphere, hydrosphere, lithosphere and biosphere.

biophysical processes and issues

- a case study investigating ONE issue in ONE of the biophysical components, to illustrate how an understanding of biophysical processes contributes to sustainable management in the environment. The investigation will include:
 - identification and explanation of the key biophysical processes which relate to the issue
 - scale of operation
 - interactions with other components of the biophysical environment
 - the sensitivity of the biophysical environment to change
 - the importance of understanding key biophysical processes for effective management
- the issue should be selected from ONE of the following components:
 - in the atmosphere, one issue such as greenhouse warming, acid rain, ozone depletion

- in the biosphere, one issue such as biodiversity, forestry, land clearing, fire
- in the hydrosphere, one issue such as river regulation, urban run-off, coastal sediment budgets, flood or drought
- in the lithosphere, one issue such as soil degradation, soil erosion, salinisation, soil contamination, mass movement.

8.2.2 Global Challenges

Time Allocation: 54 indicative hours

The focus of this study is a geographical investigation of the social, cultural, political, economic and environmental challenges which are occurring at the global scale.

Outcomes

The student:

- P1 differentiates between spatial and ecological dimensions in the study of geography
- P4 analyses changing demographic patterns and processes
- P5 examines the geographical nature of global challenges confronting humanity
- P6 identifies the vocational relevance of a geographical perspective
- P7 formulates a plan for active geographical inquiry
- P8 selects, organises and analyses relevant geographical information from a variety of sources
- P9 uses maps, graphs and statistics, photographs and fieldwork to conduct geographical inquiries
- P10 applies mathematical ideas and techniques to analyse geographical data
- P12 communicates geographical information, ideas and issues using written and/or oral, cartographic and graphic forms.

Content

Students learn to:

investigate and communicate geographically by

- asking and addressing geographical questions such as
 - how and why is the distribution of the world's population changing?
 - what are the factors responsible for cultural integration?
 - what is the future of the nation-state?
 - how can spatial inequality be defined?
 - what types of conflicts can arise from the ownership and use of natural resources?

use geographical skills and tools such as

- calculating population density of a chosen area using a map
- using information technology to collect and synthesise data relevant to ecologically sustainable development

- estimating the scale of a given area from aerial photographs and satellite images to understand spatial patterns of natural resources use
- orientating a photograph to a map of an urban area
- interpreting frequency distributions and diagrams about access to food, shelter and educational opportunities for different groups.

identify geographical methods applicable to, and useful in, the workplace such as

- mapping global patterns of population distribution and migration
- applying information technology such as the Internet to understand population change
- the relevance of a geographical understanding of global challenges to a particular vocation such as: advising diplomats and politicians, practising journalism, participating in non-government organisations (NGOs), providing background information for tourist agencies and media outlets.

Students learn about:

Population Geography and two studies selected from Cultural Integration, Political Geography, Development Geography, and Natural Resource Use.

Population Geography

- the changing nature, rate and distribution of the world's population
- spatial patterns of fertility and mortality
- types, volumes and directions of population movements such as rural-urban migration, labour migration and refugee migration
- issues arising from the changing size and distribution of population including environmental, economic and social impacts.

Students also choose TWO of the following FOUR options:

Option 1 – Cultural Integration

- the diffusion, adoption and adaptation of mass consumer culture reflected in media, fashion, brand images, sport, music and religion
- the factors affecting cultural integration such as technological change, transnational corporations (TNCs), global media networks, cultural imperialism and the actions of governments
- the effects of cultural integration such as homogenised landscapes, economic dominance and dependence, threats to cultural diversity and sovereignty, and shrinking time/space.

Option 2 – Political Geography

- the changing role and nature of the nation-state
- the increasing influence of international governance, transnational corporations and non-government organisations (NGOs) as challenges to national sovereignty
- the causes of political tensions and conflict, economic instability, and migration and mobility of people

- the consequences of these challenges on national sovereignty, and the various paths towards resolving issues and meeting these challenges.

Option 3 – Development Geography

- the nature of development
- the use of indicators to illustrate spatial variations in the level and rate of development at a global scale
- issues arising from these spatial patterns of development such as access to food, shelter, social support, health and educational opportunities
- equity issues related to ethnicity, class and gender, and ecologically sustainable development.

Option 4 – Natural Resource Use

- the nature of natural resources
- spatial patterns and consequences of the distribution and consumption of natural resources at a global scale
- economic and political issues related to the use of natural resources, their ownership and management
- environmental and social issues related to the use of natural resources such as ecologically sustainable development, and the impacts on, and responses of, indigenous peoples.

8.2.3 Senior Geography Project

Time Allocation: 12 indicative hours

The focus of this study is the nature of geographical inquiry and its application to a practical research project.

Outcomes

The student:

- P7 formulates a plan for active geographical inquiry
- P8 selects, organises and analyses relevant geographical information from a variety of sources
- P9 uses maps, graphs and statistics, photographs and fieldwork to conduct geographical inquiries
- P10 applies mathematical ideas and techniques to analyse geographical data
- P11 applies geographical understanding and methods ethically and effectively to a research project
- P12 communicates geographical information, ideas and issues using appropriate written and/or oral, cartographic and graphic forms.

Content

Students learn to:

undertake a senior geography project (SGP) by

- selecting and researching a geographical issue which relates to the Preliminary course using active inquiry methodologies
- carrying out the investigation, which may be based in a variety of locations including the environs of the school, college or campus, individually or as a member of a group.

investigate geographically by

- formulating a plan and asking geographical questions for active inquiry such as
 - what is the extent of the investigation?
 - when does the research need to be finished?
 - how much time should be allocated to the research each week/month?
- identifying a research focus for the investigation
- organising a plan of investigation
- gathering and processing relevant primary and secondary data
- critically reviewing the plan, the process and the findings of the investigation.

communicate geographically by

- defining the purposes and audiences for communicating the findings of the project such as teachers, peers, examiners, parents, carers, community organisations, local libraries, competition adjudicators, media organisations
- reporting the findings of the project through such formats as
 - an oral presentation
 - a geographical report of 2000 words incorporating maps, diagrams, tables, graphs, and photographs
 - an audio-visual display using appropriate information technologies and electronic media
 - a pictorial essay.

Students learn about:

geographical inquiry

- the nature and purpose of geographical inquiry (building on the prior learning as a result of completing the fieldwork task in Geography Stage 5)
- the use of primary data such as field measurements, observations, surveys, interviews, statistics and photographs
- the use of secondary data such as published reports, texts, newspaper editorials, audio-visual productions, graphical and statistical information
- the ethical responsibilities of conducting geographical inquiry

- respecting confidentiality and anonymity
- avoiding use of deception or coercion with informants
- avoiding exposure to physical and/or emotional risks or harm
- obtaining permission and avoiding trespass
- minimising damage to landscapes or environmental elements
- observing academic conventions regarding plagiarism
- storing data appropriately
- acknowledging source materials.

8.3 HSC Course

8.3.1 Ecosystems at Risk

Time Allocation: 40 indicative hours

The focus of this study is a geographical investigation of the functioning of ecosystems at risk, their management and protection.

Outcomes

The student:

- H1 explains the changing nature, spatial patterns and interaction of ecosystems, urban places and economic activity
- H2 explains the factors which place ecosystems at risk and the reasons for their protection
- H5 evaluates environmental management strategies in terms of ecological sustainability
- H6 evaluates the impacts of, and responses of people to, environmental change
- H7 justifies geographical methods applicable and useful in the workplace and relevant to a changing world
- H8 plans geographical inquiries to analyse and synthesise information from a variety of sources
- H9 evaluates geographical information and sources for usefulness, validity and reliability
- H10 applies maps, graphs and statistics, photographs and fieldwork to analyse and integrate data in geographical contexts
- H11 applies mathematical ideas and techniques to analyse geographical data
- H12 explains geographical patterns, processes and future trends through appropriate case studies and illustrative examples
- H13 communicates complex geographical information, ideas and issues effectively, using appropriate written and/or oral, cartographic and graphic forms.

Content

Students learn to:

investigate and communicate geographically by

- asking and addressing geographical questions such as
 - what are the reasons for the location of the Great Barrier Reef?
 - what action is appropriate for managing wetland ecosystems sustainably?
 - what will the rainforests of Kalimantan be like in the future?

use geographical skills and tools such as

- calculating the gradient of a slope as a ratio
- calculating the vertical exaggeration of a cross section describing a specific ecosystem
- determining sight lines between two points
- recognising features of changing pressure patterns on weather maps in order to describe characteristics of different ecosystems
- constructing a log of events and activities to manage the development of a fieldwork activity explaining human impacts on an ecosystem at risk
- interpreting frequency distributions and diagrams about energy flows in different ecosystems
- constructing a precis map from an aerial photo or satellite image to describe spatial patterns of overland flow
- using GIS to examine spatial and ecological issues relevant to the protection and management of ecosystems.

identify geographical methods applicable to, and useful in, the workplace such as

- using meteorological data, satellite imagery and aerial photography
- constructing environmental maps and compiling environmental impact reports
- the relevance of a geographical understanding of ecosystems at risk to a particular vocation such as: managing a national park, guiding tourist groups, ecological mapping for surveyors, evaluating dune stabilisation programs preserving heritage sites.

Students learn about:

ecosystems and their management

- biophysical interactions which lead to diverse ecosystems and their functioning
- vulnerability and resilience of ecosystems
 - impacts due to natural stress
 - impacts due to human induced modifications to energy flows, nutrient cycling, and relationships between biophysical components
- the importance of ecosystem management and protection
 - maintenance of genetic diversity
 - utility values
 - intrinsic values
 - heritage values
 - need to allow natural change to proceed
- evaluation of traditional and contemporary management strategies.

case studies of ecosystems

- TWO case studies of different ecosystems at risk to illustrate their unique characteristics including:
 - spatial patterns and dimensions: location, altitude, latitude, size, shape and continuity
 - biophysical interactions including:
 - the dynamics of weather and climate
 - geomorphic and hydrologic processes such as earth movements, weathering, erosion, transport and deposition, soil formation
 - biogeographical processes: invasion, succession, modification, resilience
 - adjustments in response to natural stress
 - the nature and rate of change which affects ecosystem functioning
 - human impacts (both positive and negative)
 - traditional and contemporary management practices.

The selected ecosystems at risk could include areas such as coastal dunes, freshwater wetlands, inter-tidal wetlands, coral reefs, arid areas, alpine areas, rainforests, temperate forests.

8.3.2 Urban Places

Time Allocation: 40 indicative hours

The focus of this study is a geographical investigation of world cities, mega cities and the urban dynamics of large cities and urban localities.

Outcomes

The student:

- H1 explains the changing nature, spatial patterns and interaction of ecosystems, urban places and economic activity
- H3 analyses contemporary urban dynamics and applies them in specific contexts
- H5 evaluates environmental management strategies in terms of ecological sustainability
- H6 evaluates the impacts of, and responses of people to, environmental change
- H7 justifies geographical methods applicable and useful in the workplace and relevant to a changing world
- H8 plans geographical inquiries to analyse and synthesise information from a variety of sources
- H9 evaluates geographical information and sources for usefulness, validity and reliability
- H10 applies maps, graphs and statistics, photographs and fieldwork to analyse and integrate data in geographical contexts

- H11 applies mathematical ideas and techniques to analyse geographical data
- H12 explains geographical patterns, processes and future trends through appropriate case studies and illustrative examples
- H13 communicates complex geographical information, ideas and issues effectively, using appropriate written and/or oral, cartographic and graphic forms.

Content

Students learn to:

investigate and communicate geographically by

- asking and addressing geographical questions such as
 - what are the challenges of living in mega cities?
 - what is a world city and why are they so important?
 - what will the city be like in the future?

use geographical skills and tools such as

- calculating population density using maps of a large city
- constructing a transect to show land use change in a local area
- describing patterns, linkages, networks and change, using maps of large cities and other urban areas
- constructing and interpreting choropleth maps
- synthesising and evaluating fieldwork data about the dynamics of change in a country town or suburb
- interpreting trends from logarithmic and semilogarithmic data about the growth of mega cities
- analysing population pyramid data to investigate the implications on health and social issues of a rapidly growing city
- calculating the time of day when a photograph was taken and relating a photo to a map of a streetscape.

identify geographical methods applicable to and useful in the workplace such as

- using GIS, satellite imagery and aerial photography
- analysing maps including topographic, cadastral and land use maps
- collecting and analysing urban field data
- the relevance of a geographical understanding of urban places to a particular vocation such as: urban and regional planning, designing effective city infrastructure, planning the delivery of social services, monitoring environmental quality and sustainability, preserving heritage sites.

Students learn about:

world cities

- the nature, character and spatial distribution of world cities
- the role of world cities as powerful centres of economic and cultural authority

- the operation of global networks
- the relationships of dominance and dependence between world cities and other urban centres and the changing role of regional centres and the demise of the small town.

mega cities

- the nature, character and spatial distribution of mega cities in the developing world
- the challenges of living in mega cities such as housing, traffic infrastructure, water and power supplies, sanitation services, employment, and other social and health issues
- the responses to these challenges such as self-help projects, community self-government, cooperation from NGOs, urban protest and the operations of informal economies.

urban dynamics

- the urban dynamics of change: suburbanisation, exurbanisation, counterurbanisation, decentralisation, consolidation, urban decay, urban renewal, urban village, spatial exclusion
- a case study of the results of the urban dynamics in a large city selected from the developed world including its
 - social structure and spatial patterns of advantage and disadvantage, wealth and poverty, ethnicity
 - changing economic character, nature and location of residential land, commercial and industrial development
 - culture of place as expressed in the architecture, streetscape, heritage architecture, noise, colour, street life, energy, vitality and lifestyles
 - growth, development, future trends and ecological sustainability
- a case study showing one of the urban dynamics listed above, operating in a country town or suburb.

8.3.3 People and Economic Activity

Time Allocation: 40 indicative hours

The focus of this study is a geographical investigation of economic activity integrating the local and global context.

Outcomes

A student:

- H1 explains the changing nature, spatial patterns and interaction of ecosystems, urban places and economic activity
- H4 analyses the changing spatial and ecological dimensions of an economic activity

- H5 evaluates environmental management strategies in terms of ecological sustainability
- H6 evaluates the impacts of, and responses of people to, environmental change
- H7 justifies geographical methods applicable and useful in the workplace and relevant to a changing world
- H8 plans geographical inquiries to analyse and synthesise information from a variety of sources
- H9 evaluates geographical information and sources for usefulness, validity and reliability
- H10 applies maps, graphs and statistics, photographs and fieldwork to analyse and integrate data in geographical contexts
- H11 applies mathematical ideas and techniques to analyse geographical data
- H12 explains geographical patterns, processes and future trends through appropriate case studies and illustrative examples
- H13 communicates complex geographical information, ideas and issues effectively, using appropriate written and/or oral, cartographic and graphic forms.

Content

Students learn to:

investigate and communicate geographically by

- asking and addressing geographical questions such as
 - where are certain crops grown throughout the world?
 - how have market preferences changed the pattern of tourism in Australia?
 - how do changes in global technology affect enterprises operating at the local level?

use geographical skills and tools such as

- analysing spatial relationships using land use and topographic maps
- interpreting flow charts depicting trade data
- identifying, collecting and recording geographical data from primary sources through fieldwork
- calculating the rate of increase or decrease between two points on a line graph showing employment change
- interpreting a ternary graph depicting raw material inputs
- interpreting proportional circles containing pie graphs
- calculating the area of a land use or vegetation type from aerial photographs, absolutely and relatively
- identifying spatial associations, interactions and changes from aerial photographs.

identify geographical methods applicable to and useful in the workplace such as

- analysing census data, statistical registers and digests, economic production data and reports
- analysing aerial photographs, electronic street directories, cadastral maps, tourist maps, atlases
- collecting and analysing field data about economic activity
- the relevance of a geographical understanding of people and economic activity to a particular vocation such as: advising public servants, consulting in market and commercial research, contributing to environmental impact statements.

Students learn about:

global economic activity

- a description of the nature, spatial patterns and future directions of ONE economic activity in a global context. The economic activity selected can be from a wide range of activities such as wheat farming, hydroponics, viticulture, textiles, tourism, advertising, retailing, wholesaling, information technologies, financial and business services industries
- factors explaining the nature, spatial patterns and future directions of the selected economic activity such as
 - biophysical: climate, soils, topography, site
 - ecological: sustainability and resource use
 - economic: competitive advantage, consumer demand, mobility of labour and capital
 - sociocultural: tradition, changing lifestyles, labour participation rates
 - organisational: ownership, decision making and control
 - technological: transportation, information transmission and flows, biotechnology
 - political: quotas, tariffs, compacts, agreements
- the environmental, social and economic impacts of the economic activity such as pollution, resource depletion, labour exploitation, cultural integration, provision of infrastructure, job creation, transfer pricing.

local case study

- a geographical study of an economic enterprise operating at a local scale. The business could be an individual enterprise, firm or company such as a family farm, a mine or mining corporation, a hotel, chain of hotels, heritage or tourist site. The case study should explore
 - the nature of the economic enterprise
 - locational factors
 - ecological dimensions including environmental constraints, climate, and human impacts on the environment such as pollution and ecological sustainability
 - internal and external linkages and flows of people, goods, services and ideas
 - effects of global changes in the economic activity on the enterprise.

9 Course Requirements

For the Preliminary course:

- 120 indicative hours are required to complete the course
- completion of the senior geography project
- 12 hours of fieldwork.

For the HSC course:

- the Preliminary course is a prerequisite
- 120 indicative hours are required to complete the course
- 12 hours of fieldwork.

Fieldwork requirements

Fieldwork is a means of understanding geographical environments and the nature of geographical inquiry. Fieldwork can enhance learning opportunities for a wide range of students because it caters for a variety of teaching and learning styles.

Fieldwork enables students to:

- acquire knowledge by observing, mapping and recording phenomena in the real world in a variety of places, including the environs of the school
- understand the spatial and ecological dimensions of geographical phenomena
- explore the geographical processes that form and transform environments
- use different kinds of geographical tools including information technologies to assist in interpretation of, and decision-making about, geographical phenomena
- locate, select and organise geographical information
- explore different perspectives on geographical issues.

Students should be involved in both pre- and post-fieldwork activities so that they take an active part in the planning of the investigation and in the application of these activities to knowledge and understanding developed in the core topics.

Fieldwork activities should be carefully planned to achieve syllabus outcomes. Students apply geographical skills through fieldwork studies appropriate to each topic. **10% of the indicative time for each of the Preliminary and HSC courses should be allocated to relevant fieldwork activities.** Whether undertaken locally or at more distant sites, fieldwork should be integrated with the teaching/learning program to take full advantage of the enhanced understanding achieved through direct observation, field measurements and inquiry learning.

In both courses, some learning experiences will be in the field, some in small group work and some in individual research investigations. Students should use practical experiences to develop their skills in management, observation, recording, interpretation and communication. Practical experiences should be used to achieve coverage of the content where specific case studies are required.

10 Post-school Opportunities

The study of Geography provides students with knowledge, understanding and skills that form a valuable foundation for a range of courses at university and other tertiary institutions.

In addition, the study of Geography assists students to prepare for employment and full and active participation as citizens. In particular, there are opportunities for students to gain recognition in vocational education and training. Teachers and students should be aware of these opportunities.

Recognition of Student Achievement in Vocational Education and Training (VET)

Wherever appropriate, the skills and knowledge acquired by students in their study of HSC courses are recognised by industry and training organisations. Recognition of student achievement means that students who have satisfactorily completed HSC courses will not be required to repeat their learning in courses in TAFE NSW or other Registered Training Organisations (RTOs).

Registered Training Organisations, such as TAFE NSW, provide industry training and issue qualifications within the Australian Qualifications Framework (AQF).

The degree of recognition available to students in each subject is based on the similarity of outcomes between HSC courses and Industry Training Packages endorsed within the Australian Qualifications Framework. Training packages are documents that link an industry's competency standards to AQF qualifications. More information about industry training packages can be found on the National Training Information Service (NTIS) website (www.ntis.gov.au).

Recognition by TAFE NSW

TAFE NSW conducts courses in a wide range of industry areas, as outlined each year in the *TAFE NSW Handbook*. Under current arrangements, the recognition available to students of Geography in relevant courses conducted by TAFE is described in the *HSC/TAFE Credit Transfer Guide*. This guide is produced by the Board of Studies and TAFE NSW and is distributed annually to all schools and colleges. Teachers should refer to this guide and be aware of the opportunities available to their students through the study of Geography Stage 6. This information can be found on the TAFE NSW website (www.tafensw.edu.au/mchoice).

Recognition by other Registered Training Organisations

Students may also negotiate acceptance into a training package qualification with another Registered Training Organisation. Each student will need to provide the RTO with evidence of satisfactory achievement in Geography Stage 6 so that the degree of recognition available can be determined.

11 Assessment and Reporting

Advice on appropriate assessment practice in relation to the Geography syllabus is contained in *Assessment and Reporting in Geography Stage 6*. That document provides general advice on assessment in Stage 6 as well as the specific requirements for the Preliminary and HSC courses. The document contains:

- suggested components and weightings for the internal assessment of the Preliminary course
- mandatory components and weightings for the internal assessment of the HSC course
- the HSC examination specifications, which describe the format of the external HSC examination.

The document and other resources and advice related to assessment in Stage 6 Geography are available on the Board's website at www.boardofstudies.nsw.edu.au/syllabus_hsc

12 Glossary

The glossary is designed to assist teachers in interpreting the syllabus and to aid student learning.

biodiversity	the variety of living organisms on earth and the recognition of the need to maintain and protect this diversity
biosphere	the realm of earth that includes all plant and animal life forms
cadastral map	a map which shows property boundaries
counter-urbanisation	a marked decline in the total population, or growth of the population, of large metropolitan areas and the subsequent growth of smaller urban centres at their expense — first identified in North America in the 1970s where counterurbanisation had replaced urbanisation as the dominant force shaping the nation's settlement pattern
ecological dimension	describes the relationship between people and the environment and the effect that they have on each other
ecologically sustainable development	using, conserving and enhancing the community's resources so the ecological processes are maintained so that quality of life, now and in the future, can be increased
ecosystem	a system formed by the interaction of all living organisms (plants, animals, humans) with each other and with the physical elements of the environment in which they live
environment	the 'total surroundings' including the components of the biophysical world, and the cultural, social, political and economic contexts of people
environmental impact assessments	a detailed study for a proposed development that identifies and describes the environment, predicts any likely changes that might result from such a proposal, assesses the significance of any predicted changes and reports through an environmental impact statement which makes provision for community consultation
exurbanisation	a process whereby people, usually affluent, move from the city to rural areas but continue to maintain an urban way of life either through long distance commuting or technology
geographical issues	areas of concern that arise due to changes resulting from the interaction within environments and which can be investigated from spatial and/or ecological dimensions
geographical	the combination of physical and human forces that form

processes	and transform our world
GIS	Geographical Information Systems: integrated computer tools for the handling, processing and analysing of geographical data
mega cities	very large agglomerations of at least 10 million inhabitants
nation-state	the political unit of people living in a defined territory, with government authority in their economy, political organisation and external security
non-government organisations (NGOs)	groups of people in the community focused around a common aim whether it be to raise money for projects, environmental action, political or social change
spatial dimension	describes where things are and why they are there
spatial exclusion	refers to the defence of luxury lifestyles which have resulted in restrictions in spatial access and the freedom of movement of other urban dwellers. It is manifest in 'high security suburbs', 'walled estates' and security conscious retail-business complexes
spatial interdependence	the degree to which phenomena depend on each other for development and/or survival. Spatial interdependence implies that a spatial association exists
spatial patterns	a key theme in geography that includes the concepts of location, distribution, spatial organisation and spatial differentiation
sustainability	the ability to meet the needs of the present generation without compromising the ability of future generations to meet their needs
transnational corporations (TNCs)	large business enterprises with a number of branches operating in several countries but with usually a central head office in a developed country, whose powers transcend national boundaries
urban village	distinctive residential districts comprising a clustering of people with a common culture and forming an identifiable community
World city (global city)	a large city that has importance to the operation of the global systems of finance, trade, politics, communications, aid, tourism and entertainment