Sample course outline  
Geography – General Year 12  
Semester 1 – Unit 3 – Natural and ecological hazards

<table>
<thead>
<tr>
<th>Week</th>
<th>Key teaching points</th>
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<td></td>
<td>All the Geographical inquiry and skills should be taught during this unit. Relevant skills should be emphasised for each depth study.</td>
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<tr>
<td></td>
<td>Geographical inquiry skills</td>
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<tr>
<td></td>
<td>• Observing, questioning and planning</td>
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<td></td>
<td>• formulate geographical inquiry questions</td>
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<td>• plan a geographical inquiry with clearly defined aims and appropriate methodology</td>
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<td>• Collecting, recording, evaluating and representing</td>
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<td>• collect geographical information incorporating ethical protocols from a range of primary (interviews, questionnaires, student’s own experiences, and field observations) and secondary sources (online maps, websites, spatial software applications, print resources and visual media)</td>
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<td>• record observations in a range of graphic representations using spatial technologies and information and communication technologies</td>
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<td>• evaluate the reliability, validity and usefulness of geographical sources and information</td>
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<td>• acknowledge sources of information and use an approved referencing technique</td>
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<td>• Interpreting, analysing and concluding</td>
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<td>• analyse geographical information and data from a range of primary and secondary sources and a variety of perspectives to draw reasoned conclusions and make generalisations</td>
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<td>• identify and analyse relationships, spatial patterns and trends and makes predictions and inferences</td>
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<td>• Communicating</td>
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<td></td>
<td>• communicate geographical information, ideas, issues and arguments using appropriate written and/or oral, cartographic, multimodal and graphic forms</td>
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<td>• use geographical language in appropriate contexts to demonstrate geographical knowledge and understanding</td>
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<td>• Reflecting and responding</td>
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<td>• apply generalisations to evaluate alternative responses to geographical issues at a variety of scales</td>
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<td>• propose individual and collective action, taking into account environmental, social and economic factors and predict the outcomes of the proposed action</td>
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Geographical skills

• Remote sensing skills (use of remote sensing products, such as ground level photographs, aerial photographs, radar imagery and satellite imagery)
  • identify and describe natural and cultural features and their patterns on the Earth’s surface using ground level photographs, aerial photographs (vertical and oblique), radar imagery and satellite imagery (Landsat, weather satellites and Google Earth)
  • compare the different types of information available from remote sensing products with the information depicted on a topographic map
  • use remote sensing products as an aid to interpreting natural and cultural features shown on topographic maps
  • determine direction on remote sensing products
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| 1-3  | • Geographical and statistical data skills (use of geographical and statistical data in formats such as tables, graphs, maps and diagrams)  
  ▪ calculate and interpret descriptive statistics, including central tendency (arithmetic mean, median, mode), and variation (maximum, minimum and range)  
  ▪ interpret and apply data from different types of statistical maps (isopleth/isoline, choropleth, proportional circle and dot distribution maps)  
  ▪ interpret and construct tables and graphs, including: picture graphs; line and bar graphs; scattergrams; climatic graphs; pie graphs; flowcharts and population pyramids  
  ▪ use simple systems and flow diagrams to organise thinking about relationships  
  ▪ extrapolate trends over time to forecast future conditions  
  • Skills in the use of information and communications technology and geographical information systems (in a geographic context)  
  ▪ use the internet as a tool for geographical research  
  ▪ use simple applications, software and online resources (including Google Earth and Google Maps) to access atlases and remote sensing products (photographs, radar imagery and satellite imagery) for the purpose of identifying and describing spatial patterns and relationships  
  ▪ use common databases, such as the Bureau of Meteorology, for spatial and statistical information  
  ▪ use geospatial technologies, including global positioning systems (GPS), to collect and map spatial data  
  ▪ use simple geographical information systems (GIS) products in description and analysis relevant to the unit content  
  • Fieldwork skills (use of field observations and measurements)  
  ▪ collect primary data using field techniques, including: surveys and interviews, observing and recording, listening, questioning, sketching and annotating, measuring and counting, photographing and note-taking  
  ▪ collate field data using techniques, including: listing, tabulating, report writing, graphing, constructing diagrams and mapping  
  ▪ analyse and interpret primary data  
  • Mapping skills (use of maps and atlases)  
  ▪ identify and interpret a variety of topographic and thematic maps (physical, political, and social maps, overlay maps, synoptic charts and climate maps) at different scales (local, national and global)  
  ▪ understand and interpret marginal information represented on maps (title, conventional signs contained in the legend, north point, numerical and linear scales)  
  ▪ establish position on a map using alphanumeric grid coordinates, eastings and northings, four figure area references, six figure grid references, and latitude and longitude expressed in degrees and minutes  
  ▪ establish direction on a map using general compass directions (8 points) and bearings  
  ▪ interpret and express scale in written, linear and ratio (representative fraction) formats, and convert scale from one format to another  
  ▪ apply the map scale to basic calculations to determine distance and area |
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| • interpret relief on a map using contours and spot heights to describe the steepness and shape of a slope (concave, convex and uniform)  
• identify different relief features (landforms, including hills, valleys, plains, spurs, ridges, escarpments, saddles, cliffs) and different types of natural vegetation cover and hydrological features  
• construct simple annotated sketch maps using map conventions (border, title, legend, north point and approximate scale)  
• identify and interpret natural features and cultural features on a map  
• describe the site and situation of places  
• identify and describe spatial patterns, including land use, settlement and transport  
• identify and describe spatial relationships between natural and cultural features  
• Geographical and statistical data skills (use of geographical and statistical data in formats such as maps, tables, graphs and diagrams)  
**Task 1: Practical skills test** |

4–5

**Overview of natural and ecological hazards**
- the concept of hazard geography  
- identification and classification of natural hazards (atmospheric, hydrologic and geomorphic)  
- examples of natural hazards, including storms, cyclones, hurricanes, typhoons, tornadoes, frosts, droughts, bushfires, flooding, earthquakes, volcanoes, landslides  
- ecological hazards, including environmental diseases/pandemics (toxin-based respiratory ailments, infectious diseases, animal-transmitted diseases and water-borne diseases), and plant and animal invasions  
- the concepts of risk and hazard management as applied to natural and ecological hazards  
- the spatial and temporal distribution, magnitude, duration, frequency, probability and scale of spatial impact of natural and ecological hazards at a global scale  
- the role of spatial technologies in the study of natural and ecological hazards

6–7

**Depth study one** – using fieldwork and/or secondary sources, students investigate one natural hazard and the means by which the risks associated with the hazard are being managed (for the purpose of exemplifying the course content, bushfires is the selected hazard)
- Geographical inquiry skills  
  - observing, questioning and planning  
  - collecting, recording, evaluating and representing  
  - interpreting, analysing and concluding  
  - communicating  
  - reflecting and responding
- the nature and causes of bushfires  
- the nature of the risks to be managed, such as:  
  - loss of property/life  
  - effects on infrastructure, jobs and the economy  
  - the impact on physical and mental health  
- the space and time distribution of bushfires and how an understanding of biophysical and human processes can be used to explain the patterns that are identified  
- the magnitude, duration, frequency, probability and scale of spatial impact of bushfires
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| 8–9  | • Fieldwork skills (use of field observations and measurements)  
      ▪ collect primary data using field techniques, including: surveys and interviews, observing and recording, listening, questioning, sketching and annotating, measuring and counting, photographing and note-taking  
      ▪ collate field data using techniques, including: listing, tabulating, report writing, graphing, constructing diagrams and mapping  
      ▪ analyse and interpret primary data  
      **Task 2: Fieldwork/Practical skills**  
      • the physical and human factors that explain why some places and people are more vulnerable than others to bushfires  
      • the means by which the activities of people can intensify the impacts of bushfires  
      • the environmental, economic and social impacts of bushfires in Australia, compared with Africa (wildfires)  
      **Task 3: Test** |
| 10–11| **Depth study two** – students investigate one ecological hazard and the means by which the risks associated with the hazard are being managed (for the purpose of exemplifying the course content, Ebola is the selected hazard)  
      • Geographical inquiry skills  
      ▪ observing, questioning and planning  
      ▪ collecting, recording, evaluating and representing  
      ▪ interpreting, analysing and concluding  
      ▪ communicating  
      • the nature and causes of ecological hazards associated with Ebola  
      • the nature of the risks to be managed, such as:  
        ▪ loss of property/life  
        ▪ effects on infrastructure, jobs and the economy  
        ▪ the impact on physical and mental health  
      • the spatial and temporal distribution of Ebola and how an understanding of biophysical and human processes can be used to explain the patterns that are identified  
      • the magnitude, duration, frequency, probability and scale of spatial impact of Ebola |
| 12–15| • the physical and human factors that explain why some places and people are more vulnerable than others to the negative impact of Ebola  
      • the means by which the activities of people can intensify the impact of Ebola  
      • the environmental, economic and social impacts of Ebola in a developed country compared with at least one less developed country or region  
      **Task 4: Geographical inquiry**  
      **Task 5: Externally set task** |
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| 1–2  | **All the Geographical inquiry and skills should be taught during this unit. Relevant skills should be emphasised for each depth study.**  
Overview of international integration  
• the application of the concept of sustainability when considering the outcomes of increased globalisation  
• the process of international integration, especially as it relates to the transformations taking place in the location of production and consumption of commodities, goods and services  
• the spread and adaptation of ideas, meanings and values that continuously transform and renew cultures |
| 3–4  | • advances in transport and telecommunications technologies as a facilitator of international integration, including their role in the expansion of world trade, the emergence of global financial markets, and the dissemination of ideas and elements of culture  
• the economic and cultural importance of world cities in the integrated global economy and their emergence as centres of cultural innovation, transmission and integration of new ideas about the plurality of life throughout the world  
• the concept of global shifts with the re-emergence of Asia, particularly China and India, as global economic and cultural powers, and the relative economic decline, but sustained cultural authority, of the United States of America and Europe  
**Task 6: Test** |
| 5–6  | **Depth study one** – students investigate the reasons for, and consequences of, the changing spatial distribution of production and consumption of at least one example of a commodity, good or service (for the purpose of exemplifying the course content, automobiles is the chosen commodity)  
• the nature of automobiles as a commodity, good or service  
• the process of diffusion of automobiles and its spatial outcomes  
• the changes occurring in the spatial distribution of the production and consumption of the automobiles in Australia and overseas, and the geographical factors responsible for these changes  
• the role played by technological advances in transport and/or telecommunications in facilitating these changes in the spatial distribution |
| 7–8  | • the role played by governments and enterprises in the internationalisation of the production and consumption of automobiles, such as the reduction or elimination of the barriers to movement between countries  
• implications of these changes in the nature and spatial distribution of the production and consumption of automobiles for people, places and the biophysical environment at a variety of scales, including the local  
• likely future changes in the nature and spatial distribution of the production and consumption of automobiles  
• the ways people and places embrace, adapt to, or resist the forces of international economic integration, and the spatial, economic, social and geopolitical consequences of these responses  
**Task 7: Test** |
| 9–10 | • Geographical skills  
  ▪ mapping skills |
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<td>11–12</td>
<td><strong>Depth study two</strong> – students investigate an example of the diffusion, adoption and adaptation of <strong>at least one</strong> element of culture and its consequences for the cultural geography of places (for the purpose of exemplifying the course content, music festivals is the selected element of culture)</td>
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<td>• the process of diffusion of music festivals and its spatial outcomes</td>
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<td>• the role played by technological advances in transport and/or telecommunications in the diffusion of music festivals</td>
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<td>• the role played by transnational institutions and/or corporations in the dispersion of music festivals</td>
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<td>• the role played by media and emerging technologies in the generation and dispersion of music festivals</td>
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<td>13–15</td>
<td>• implications of the changes in the nature and spatial distribution of music festivals for peoples and places at a range of scales, including the local scale</td>
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<td>• the ways people embrace, adapt to, or resist the forces of international cultural integration</td>
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<td>• likely future changes in the nature and spatial distribution of music festivals</td>
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<td>• the spatial, economic, social and geopolitical consequences of changes to music festivals</td>
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<td><strong>Task 9: Geographical inquiry</strong></td>
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