Tutorial Letter 201/2/2018

Know your world: Introduction to Geography

GGH1501

Semester 2

Department of Geography

IMPORTANT INFORMATION

This tutorial letter contains:

- Comments on Assignment 01
- Comments on Assignment 02

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1 Introduction

Dear Student

The purpose of Tutorial Letter 201 is to provide comments on Assignments 01 and 02. You will be able to use these comments to improve your answers, especially for those questions you received unsatisfactory marks on. You can also just read through the comments to improve your understanding of the material in a general way. Lastly, the comments for Assignment 02 form part of the memorandum used to mark the assignment. This will give you a better idea of not only what was required, but also how marks were awarded.

Note the following acronyms that are used in the sections below to refer to different elements of the study material:

- PB Sect A: Section A of the Prescribed Book
- PB Sect B: Section B of the Prescribed Book
- SG: Study guide document (GGH1501_SG001_2018)
- MCQs: Multiple-Choice Questions
- TL: Tutorial letter
- Sect: Section
- Ch: Chapter
- Fig: Figure
- p/pp: Page/pages

The names of the lecturers who have contributed to this tutorial letter are mentioned in the sections they are lecturing this semester. Please contact them as indicated if you have any queries.

2 Comments on Assignment 01

Enquiries: Mr Carel Greyling, +27 11 670 9464, egreyla1@unisa.ac.za

Learning Unit 0: Know your learning environment			
Question	**Correct answer**	**Page references**	**Comments on correct answer and/or incorrect option (where applicable)**
1	3	TL101: 9	You will be automatically assigned to an e-tutor group a while after you registered on myUnisa.
2	2	TL101: 11	Compare the various statements in the question to the information provided in TL101, and you will note that the assignments contribute 25% to the final mark.
3	4	TL101: 9	It is clearly stated in TL101 that the easiest way to arrange a meeting with the primary lecturer is to email or phone directly.
4	1	TL101: 7	This was an easy one. Compare the ISBN number in the question to the one provided in TL101 and see if it correlates.
5	5	TL101: 8-9	For GGH1501 you can find all tutorial letters in additional resources on myUnisa.
6	2	TL101: 11-12	Please make sure that you understand the difference between your year mark (which is the same as your semester mark), exam mark and final mark. You can answer the question by calculating your year mark as follows: Reducing each of the assignments marks to their correct weight and then add these weights together. Assignment 1 has a weight of 10% (so 46% is reduced to 4.6%), Assignment 2 has a weight of 50% (so 66% is reduced to 33%) and Assignment 3 has a weight of 40% (so 52% is reduced to 20.8%) of the year mark. This results in a year mark of 58.4%. If compared to the

			answers that are provided, you will see that corresponds to option 2.
Learning Unit 1: The nature of Geography and geographical thinking			
7	4	PB Sect A: 52–54 PB Sect B: 11	Every 15 degrees of longitude on the global grid represent an hour difference in time. By calculating the difference in degrees we know that NYC and LA are separated by 45 degrees. This means that there is a 3 hour difference between the two cities. Since NYC is to the east of LA, NYC will be ahead of time compared to LA. This is due to the west to east rotation of the Earth. NYC is therefore 3 hours ahead of LA, and it will be 8 PM in NYC.
8	2	PB Sect A: 39–44 PB Sect B: 12–13	A uniform region is also known as a formal region, it is unlikely that there will be no variation whatsoever in any region. To classify a region as uniform, the region only needs to share one common characteristic (such as biome/climate type), although there may be more in common as well.
9	5	PB Sect A: 57-58 PB Sect B: 9	The Mercator projection is known after its Flemish inventor Gerardus Mercator, who designed it to aid sea farers in navigation across the ocean.
10	3	PB Sect A: 55 PB Sect B: 8	Maps that show a small portion of the earth's surface and show the area in fine detail have large scales, whereas maps that show a large portion of the earth's surface, and therefore less detail, have a small scale. Another way to remember the differences in scale is to recognise that a scale is a number or a ratio. A small scale has a smaller ratio and a large scale have a larger ratio. E.g. if you see the scale (or ratio) 1/250 and compare it to 1/2 500 000, you can see that the first option is a larger ratio and therefore is a large scale.

11	2	PB Sect A: 52–55 PB Sect B: 10–11	Latitudes start at 0 degrees at the equator and increase in parallel circles to 90 degrees at the poles.
12	4	PB Sect A: 52-55 PB Sect B: 10–11	Longitude and latitude are the easiest and most accurate method to calculate your own location.
13	1	PB Sect B: 4-6	Geographers study why different places are unique but at the same time how places are linked with each other. These three concepts are easily recognisable as concepts required to explain *why* places are interrelated.
14	5	PB Sect A: 39–44 PB Sect B: 12–13	A ward is an area with a planned and a formalised boundary, therefore it can be seen as a formal region. A ward councillor can be seen as a figure of authority. This means that the idea of recycling has spread from a person or node of authority.
15	2	PB Sect B: 22-23	The spread or movement of ideas, characteristics or features from one area to another is called diffusion.
16	2	PB Sect A: 66–72 PB Sect B: 13	A GIS can used to view different spatial information in layers, such as geology, climate and population. These layers can then be compared and will highlight relationships, such as similar distribution patterns, and associations between the layers within the same area. *(Please take note that the assignment was remarked and that the answer to this question in the memo changed from Option 1 to Option 2.)*
17	4	PB Sect A: 49–52 PB Sect B: 24–25	Option four is correct. An abiotic system involves non-living material, and therefore, the biosphere forms part of a biotic system. If the air we breathe becomes polluted, the chances of obtaining a respiratory disease increase.
18	2	PB Sect A: 51–52 PB Sect B: 26–27	Environmental determinism originates from the theory that our capacity to develop is directly associated with our physical environment. In other words, our actions are determined by the type of environment we find ourselves

			in. E.g., we will not plant tropical vegetation in a desert, because the plants will not survive due to the extreme heat and lack of water.
19	2	PB Sect B: 40-41 or any other global political map.	Use an atlas to find the relative location of Nepal and compare the options to find the correct answer.
20	3		Use an atlas to find the relative location of Kenya and compare the options to find the correct answer.

3 Comments on Assignment 02

Question 1

Enquiries: Mr Carel Greyling, +27 11 670 9464, egreyla1@unisa.ac.za; Prof Rudi Pretorius, +27 11 471 3680, pretorw@unisa.ac.za; Dr Adeline Ngie, ngiea@unisa.ac.za

The following table needs to be completed: (10)

	Predominant terrestrial biome(s)	Agricultural density (farmers per km^2 of arable land)	Human development index	Dietary energy consumption (kcal/person/day)
Argentina				
Sudan				
Poland				
Pakistan				

Relevant study material: TL 101: 23-25

Advice provided in TL 102: You can easily get full marks for this question if you work from the textbook or use the GGH1501/102 maps supplied as part of the assignment in TL 101. We recommend that you use the online version of TL 101, in which the maps appear in colour, which will make them easier to use. It would be best if you answer this question by using the given table format. The table needs to be filled out with the required information, which you will

find in the maps. There is no need for a lengthy explanation of the information in the table or any other aspects of the maps.

Mark allocation: 1 mark per cell of the table with correct information, to be reworked to a mark out of 10.

Pointers to a good answer:

As easy as it seemed to score all the marks here, some students got it completely wrong. The simple trick with map interpretation is understanding to read you legend or key in relation to the map itself. Given that the country names were not on the map; your responsibility was to search for a world map with country names which the e-Tutors posted on their sites as requested by the students. There was no need to research the values of the factors asked for in the table elsewhere or give specific values which might not have corresponded with the year the map in the prescribed book was produced. For instance: For Argentina the HDI indicators from 1990 to 2015 was 0.827 - this could be true according to your reference but doesn't match with the values on the map provided for this assignment and in the textbook.

Lastly, the values/descriptions as stated on the legend/key of the map had to be copied as supplied. If it states below 25, that should be it and not a specific value between 0 – 24 because it is impossible to deduce a specific value in this case.

Completed table:

	Predominant terrestrial biome(s)	Agricultural density (farmers per km^2 of arable land)	Human development index	Dietary energy consumption (kcal/person/day)
Argentina	Desert shrub/ tropical savannah, mixed grassland and woodland	Below 25	High developing (0.68-0.79)	2000-2999
Sudan	Desert shrub	25-49	Low developing (below 0.49)	2000-2999
Poland	Broadleaf or mixed broadleaf and coniferous forest	25-49	Very high developed (above 0.79)	3000 and above
Pakistan	Desert shrub	Above 100	Medium developing (0.49-0.67)	2000-2999

Question 2

Enquiries: Mr Carel Greyling, +27 11 670 9464, egreyla1@unisa.ac.za

Question: Refer to Figure 4 to 7. Discuss the suitability of these maps for the themes that are depicted in terms of the projection which has been chosen for these maps and the shading being used. (10)

Relevant study material: PB Sect A: 56-59 and PB Sect B: 8 and 9. PB Sect A: 59 to 61, PB Sect B: 8 and 9 and SG: LU 7 – Sect 7.4.5 and 7.4.8.

Advice provided in TL 102:
You are asked to evaluate the maps in figures 4 and 7 objectively, in terms of the projection and shading that have been used. You can assume that the map title provides a clue to the purpose of the map. Use this as point of departure to evaluate whether the projection and shading that have been used are appropriate for the type of maps in figures 4 and 7. Tip about projection: Focus on what type of distortions can occur when different projections are applied to maps.

Projections are discussed in detail in PB Sect A: 56-59 and PB Sect B: 8 and 9. You will learn that projections have different type of distortions which you need to take into consideration when looking at the purpose of a map. Read more about the appropriate use of shading in the following study material: PB Sect A: 59 to 61, PB Sect B: 8 and 9 and SG: LU 7 – Sect 7.4.5 and 7.4.8.

Length of answer: 500–750 words
Mark allocation: 6 marks for the explanation of projections and 4 marks for the explanation of shading

Pointers to a good answer:
As suggested in the advice for the assignment in TL102, your answer should have a basic structure as discussed below. However, we did not penalise you if you followed a different approach. The marks were divided between the explanation and use of projection (6 marks) and of shading (4 marks) in maps.

You should have highlighted the following facts regarding projection in your answer:

- The correct projection is the Winkle 2 pseudo-cylindrical projection as stated in the textbook. : See Fig 1-26 on P 58 of Sect A of textbook.

- A map projection can create four types of distortions, shape, size, direction and distance
- A short discussion on the distortion of the equal area projection. The sizes of countries are accurate in the maps used in the assignment but shapes are distorted. This might lead to slightly incorrect interpretations about the patterns on the maps, especially on the edges that can lead to a skewed view of the topic indicated on the map, therefore the correct projection should be chosen to minimize the effect. Any other relevant observation or explanation was also considered for marks.

You should have highlighted the following facts regarding shading in your answer:

Both these maps are thematic or choropleth maps. You should have determined the purpose of the map and then decide whether the use of shading in the maps were a successful attempt to portray the information. Choropleth maps use shading to show quantities for different areas with different shades indicating different values. Any other relevant observation or explanation was also considered for marks.

Question 3

Enquiries: Dr Adeline Ngie, ngiea@unisa.ac.za

Question: Analyse the spatial distribution pattern of the desert and desert shrub biome over the world, with reference to the reasons for, as well as the characteristics of this pattern. (10)

Relevant study material: LU 1, Sect. 1.4.3 and PB Sect A: 44-48

Advice provided in TL 102:

To answer this question well, you must understand the meaning of the term “spatial distribution”, which is discussed SG: LU 1, specifically Sect. 1.4.3 and PB Sect A: 44-48. Once you understand these terms, use figure 4 in Tutorial Letter 101 (which is 4.8.2 'The major terrestrial biomes') to identify those regions of the world where the desert shrub biome occur and then try to identify a pattern in how these regions are distributed over the world. Look carefully: Some of them might occur along certain latitudes, or on certain sides of continents. So be careful before concluding that it is a random pattern, because that might be wrong!

You also need to give a short explanation of the processes leading to the distribution pattern of desert shrub biome regions that you identified. Ask yourself the following: Why would this type of biome form? Why are biomes located in specific regions? Could it be that biomes and

vegetation are linked with the regional climate? The answer to these questions refers to factors that determine the climate, as explained in LU 2.

Length of answer: 500–750 words.
Mark allocation: 5 marks for identification of pattern and 5 marks for explanation of reasons for pattern

Pointers to a good answer:
Firstly, you needed to understand that desert and desert shrub biomes could be considered as one since they share similar characteristics and are found in the same regions. The focus in this was not the characteristics of plants/soil/climate as many of you did but on the identification of the locations where it occurs. Therefore, dwelling more on the characteristics of plants in the desert biome as well as the climatic conditions did not really score you marks enough for a pass.

Secondly, understanding the fact that the question consisted of two parts and had to be answered in that way, is important: (1) identifying the spatial pattern of these biomes across the world and naming them as stated in the guidance supplied in TL102 and (2) explaining the processes leading to this specific pattern and their occurrence at those various spots that you would have identified.

The following were considered across the world as deserts and/or desert biomes:

- This biome is mostly found along the Tropic of Cancer (Northern hemisphere above the Equator) and a few areas along the Tropic of Capricorn (Southern hemisphere) - subtropical regions. Even mentioning the latitudes 30°N or S would also have been in order.
- It is also found at the edges or margins or coasts of the continental land masses within the subtropics, as in North and South America, Africa, the Mid-eastern region and Asia, as well as Australia.
- In the Northern hemisphere there is a huge concentration of this biome in the northern part of Africa, the Mid-eastern region and the south western parts of Asia and some patches along the south western sections of North America.

- In the Southern hemisphere occurrences of this biome are mostly found in the western and south west parts of Australia, the coastal and western parts of Southern Africa and the south eastern parts of South America.
- Other isolated spots of occurrence include the western coastline and northern parts of South America.

The second part of the answer was about explaining the processes leading to the spatial pattern formed by the occurrence of desert/desert shrub biome. To consider the following points:

- Arid and semi-arid regions of the world experience sparse to stunted vegetation (or drought resistant) because of low water content and high sunlight as in the case of the subtropical latitudes of North Africa and the Mid-eastern region, which experience dry descending air within the subtropical high pressure systems.
- Their location is also mostly along the western side of continents, except in the case of North Africa because of the easterly prevailing winds (trade winds) in these subtropical regions which reach the western parts of the continent with less moisture (rainfall)
- The cold ocean currents washing the western coastal regions of these subtropical regions contributes to the stability of the overlying air masses, which limits rain and cloud formation as in Australia, Southern Africa and South America.
- Any other relevant reason for the pattern such as the obstruction of mountains to rainfall (leeward side), location of areas deep in the interior of continents (far from source of moisture) and others.
- Even the following was considered as well:
    - Only vegetation and animal life that can survive the low water and sandy dry soils of this biome thrive and as one moves away from this biome and more water becomes available, other vegetation types such as the savannah and mixed grassland biomes start to take over. Example: central and western Africa, central Asia, northern parts of Argentina as well as the northern and central parts of Australia

Finally, always let the mark allocation guide you on the content required and length of explanation to be given. That is the reason why the guidance for the assignment contained an estimated number of words. Structuring your answer into paragraphs does not only show the

marker that you understood what you were doing but also helps you in reviewing your work before submission.

Question 4

Enquiries: Prof Rudi Pretorius, +27 11 471 3680, pretorw@unisa.ac.za

Question: Using Poland and Sudan as examples, compare and explain the spatial association between the world distribution patterns of the human development index and dietary energy consumption. (10)

Relevant study material: PB Sect B: 224-225 and 256-257

Advice provided in TL 102:

To answer this question, you need to be well acquainted with the meaning of the term “spatial association”, as discussed in SG: LU 1. You also need to study the world distribution patterns of the human development index (HDI) – figure 6 in TL 101 and the dietary energy consumption (DEC) – figure 7 in TL 101. For background on HDI, read PB Sect B: 222-223 and for background on DEC read PB Sect B: 252-253

You then need to do the following:

- Identify the patterns formed by HDI and DEC (i.e. identify “where”) on the two maps. I.e. in which regions are the HDI low/high and also in which regions are the DEC low/high?
- As next step, take a specific country and compare its values for the HDI and DEC, and repeat that for a number of countries.
- Now you are ready to identify associations between the patterns on the two maps. I.e. how our understanding of the pattern in one of these maps helps to inform our understanding of the pattern in the other map.

For the purpose of this explanation, you are required to look in detail at the HDI and DEC values for Poland and Sudan, and compare their fluctuation step by step. To be able to do this, it might help to consider that Poland occupies a higher position on the ladder of development than Sudan. This implies that your answer should point towards the disparities between these two countries.

Length of answer: 500-750 words. Mark allocation: 5 marks for the identification and comparison of the patterns on the respective maps and 5 marks for the explanation of the spatial associations between the patterns on the two maps.

Pointers to a good answer:

In the first instance, a comparison of the two development indicators (HDI and DEC) between the two countries (Poland and Sudan) has to be done, so that a pattern can be identified. Any combination of the following points was considered for marks:

- Identification of correct data for given countries:
  - Poland
    HDI: Very high developed (above 0.79)
    DEC: 3000 and above kcal/person/day
  - Sudan
    HDI: Low developing (below 0.49)
    DEC: 2000-2999 kcal/person/day
- This implies an association between a high HDI and a high DEC, and vice versa, i.e. a low HDI and a low DEC.
- World patterns that emerge include the following:
  - Regions with a very high HDI as Europe, North America and parts of the South Pacific (e.g. Australia and New Zealand) are generally associated with a DEC of 3000 and above kcal/person/day.
  - Regions with a medium to high HDI as Latin America and large parts of Asia are frequently associated with a DEC of 2000-2999, but sometimes even higher.
  - For regions with a low HDI as large parts of Africa, the DEC can even be lower than 2000, although the category of 2000-2999 is more common
- The general pattern points towards a higher HDI and DEC in highly developed regions compared to less developed regions that have a relatively lower HDI and DEC.
- Any other relevant observations on patterns were also considered for marks, as long as it makes sense.

Secondly the identified pattern of association had to be explained. Any combination of the following points was considered for marks:

- HDI is a measure of a country's level of development.
- In a more developed country as Poland, people have a relatively high income, are less directly involved in agriculture and more in the primary and secondary sectors.

- These people can afford to buy food to satisfy their dietary energy needs, but this leads to the phenomenon of people who frequently consume more than the minimum dietary energy need.
- In less developed country as Sudan, people have a relatively low income, and are more directly involved in agriculture (primary sector).
- These people cannot afford to buy food, have to live from the land, are exposed to phenomena as droughts and famine, and as a result they frequently may consume less than the minimum dietary energy need.

Any other relevant observations contributing to an explanation of the observed association were also considered for marks, as long as it makes sense.

Question 5

Enquiries: Mr Carel Greyling, +27 11 670 9464, egreyla1@unisa.ac.za

Question: Using any of Argentina, Sudan, Poland and/or Pakistan as examples, discuss the enabling and/or constraining role of the type of terrestrial biome as settlement factor, with reference to the way in which geographers generally view human-environment relationships and interactions. (10)

Relevant study material: PB Sect B: 26 – 27

Advice provided in TL 102:

Before answering this question, you must refer to the maps in figures 4 and 6 in Tutorial Letter 101. You then have to:

- Choose at least one of the given countries where you can observe that the terrestrial biome might constrain (negatively influence) human settlement.
- Choose another country (from the given list) where you can observe that the terrestrial biome might enable (positively influence) human settlement.

Now do the following:

- For the first country you chose, critically analyse the constraining role played by the terrestrial biome in human settlement (4 marks).
- For the second country you chose, critically analyse the enabling role played by the terrestrial biome in human settlement (4 marks).

- Thirdly, for 2 marks, you need to discuss how this view of the terrestrial biome as settlement factor links with geographers' views of human–environment relationships and interactions.

Read more on this in PB Sect B: 26 – 27.
Length of answer: 500–750 words.

Pointers to a good answer:
As indicated in the advice given in TL102, the mark allocation was divided as follow:

- 4 marks – constraining role by the terrestrial biome in human settlement
- 4 marks – enabling role by the terrestrial biome in human settlement
- 2 marks – view of human-environment relationships and interaction

We acknowledged that the structure of your answer might differ from with ours set out in this explanation. For instance, you might have compared the constraining and enabling factor for settlement in the same country but which would then have required a more in depth discussion. We did not, however, penalise you on the structure of your answer.

You had to explain the following factors regarding biome as an enabling factor for human settlement:

- Highlight the role of biomes as an enabling factor for human settlement – certain biomes makes it easy to lead a healthy life style, less diseases, is comfortable, etc and also makes it easier to cultivate all kind of crops and keep livestock to provide the population with food.
- Any other relevant observations on biomes as an enabling factor for human settlement can also be considered for marks.
- Use of example of such a biome type and country: Poland with broadleaf or mixed broadleaf and coniferous forest which is a very high developed country (above 0.79).

You had to explain the following factors regarding biome as a constraining factor for human settlement (4 marks/ 8 marks if applicable):

- Highlight the role of biomes as a constraining factor for human settlement – Desert shrub biomes are generally too dry for cultivation purposes, water is scarce and settlement is frequently concentrated around locations where scarce resources occur.

- Use of example of such biome type and country: Afghanistan/Sudan/Argentina – Desert shrub biome.

In addition to explaining enabling and constraining factors, the question asks you to summarise views taken by geographers of human-environment relationships:

- The view that terrestrial biomes is a determining factor in human settlement is referred to as environmental determinism, but is accepted today that many variables determine human settlement, of which biomes are only one.
- The view of possibilism is today more acceptable, posing that humans have the ability to adapt to and interact with their environments, are not merely subject to environmental influences.

Question 6

Enquiries: Prof Rudi Pretorius, +27 11 471 3680, pretorw@unisa.ac.za

Question: Briefly review and critically evaluate the strategies that have been identified to increase food supply in developing countries. (10)

Relevant study material: PB Sect B: 264 and 265

Advice provided in TL 102:

To answer this question, you must read PB Sect B: 264 and 265. In this section, four main strategies have been identified which you need to evaluate. Ask yourself, questions as:

- Will these strategies be appropriate for developing countries?
- Which of these strategies are most likely to make an impact on the lives of people in developing countries?

Take note: DO NOT copy directly from the textbook, you will be penalized for doing that. We want to hear your voice!

Length of answer: 500–750 words. Mark allocation: 5 marks for correct identification and review of strategies and 5 marks for the overall evaluation of strategies.

Pointers to a good answer:

In the first instance it was important to identify and review the strategies, which are as follows (5 marks):

- Expand agricultural land
  - Can mention that it's about expanding the amount of land used for food production, this can be to include land not currently utilized for anything, or else to change current land-use patterns. This has been an important way in which food production was increased in the past.
- Increase agricultural productivity
  - Can mention that it is primarily achieved through new/innovative/adapted agricultural practices through which the yield from the same piece of land can be increased. Example: Green Revolution practices such as development of hybrids of crops that have higher yields, also use of machinery, fertilizers and pesticides.
- Improve food sources and/or find new foods
  - Can mention the introduction of new hybrids having higher nutritional value; Improved palatability of rarely consumed foods, i.e. soy beans
- Expand exports
  - Can mention that increased trade in food could be a strategy to increase food supply in countries where deficits are experienced

In the second instance, these strategies had to be specifically reviewed in terms of suitability for developing countries:

- Expand agricultural land
  - As population increases, land for the expansion of food production is becoming increasingly scarce. Excessive or inadequate water availability makes expansion difficult as well.
- Increase agricultural productivity
  - New high-yielding forms of crops have huge potential, have been made available globally and prevented food scarcities in the past, but have financial implications as a challenge for developing countries, while the use of pesticides, machinery and fossil fuels have environmental implications
- Improve food sources and/or find new foods
  - Customs/social practices/lack of awareness frequently limit the use of potential sources, education/awareness programmes could address this and open up currently unused food sources to be used as well

- Expand exports
  - Imports/exports of food can assist in supplementing the availability of food sources in developing countries, but due to the cost factor involved, cannot be regarded as a viable option for developing countries, which are not prominent players in neither the import or export of food
- Final evaluation
  - Due to the constraints that developing countries have in terms of resources and capacity, the options of “Improving food sources / finding new food sources” and “Increasing agricultural productivity” appear to be most promising.
  - Rapid population growth in these countries limit expansion of agricultural land and large scale imports are out of reach due to financial implications

4 Concluding remarks

We trust that the feedback provided in this document will help you to master the GGH1501 learning outcomes and assist you with your examination preparation.

Sincerely, Your GGH1501 lecturers

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