

Course Syllabus (Semester 2/2017)

Learning Group: Math

Subject Code: MA 32212

Subject: Math

Year Level: 11

Total: 2 periods / week

Credit: 1.0

Week	Period	Topic	Contents	Objectives: The students should be able to...
1	1-2	Descriptive statistics	Introduction to descriptive statistics	Explain clearly what descriptive statistics is all about
2	3-4	Descriptive statistics	Types of data	Identify types of data whether it is continuous or discrete, quantitative or qualitative
3	5-6	Descriptive statistics	Frequency table	Construct a frequency table for a set of data
4	7-8	Descriptive statistics	Upper and lower boundaries	Calculate both upper and lower boundaries of a set of data
5	9-10	Descriptive statistics	Frequency histogram	Construct a frequency table and draw a histogram based on the frequency table made
6	11-12	Descriptive statistics	Cumulative frequency table and cumulative frequency curve	Make the cumulative frequency table and draw a frequency curve correctly
7	13-14	Descriptive statistics	Central tendency and quartiles	Find the mean, median, mode, range, percentile and quartiles accurately
8	15-16	Descriptive statistics	Data dispersion and box and whisker diagram	Identify parts of and construct a box and whisker diagram correctly

Week	Period	Topic	Contents	Objectives: The students should be able to...
1	1-2	Statistical applications	Introduction to statistical applications	Express their ideas on how statistics applications are useful in real life
2	3-4	Statistical applications	Normal distribution	Identify the property of a normal curve
3	5-6	Statistical applications	Applications of normal distribution in problem solving	Solve problems regarding normal distribution
4	7-8	Statistical applications	Scatter diagram	Plat a scatter diagram based on the information given
5	9-10	Statistical applications	Line of best fit	Calculate the means of x and y and eventually construct the line of best fit
6	11-12	Statistical applications	Regression line	Write an equation of regression line based on the data given
7	13-14	Statistical applications	Chi-squared test	Write both null and alternative hypotheses and conduct a chi-squared test and come up with appropriate results from the test performed
8	15-16	Statistical applications	Application of chi-squared test in problem solving	Use chi-squared test in problem solving properly

Course Syllabus (Semester 2/2017-2018)

Learning Group: Science

Subject Code: SC 32102

Subject: Science

Year Level: 11

Total: 2 periods / week

Credit: 1.0

Week	Period	Topics	Contents	Objectives
1	1 - 2	1 Life and Environment 1.1 Biomes 1.1.1 Terrestrial biomes	<p>Biomes are very large ecological areas on the earth’s surface, with fauna and flora (animals and plants) adapting to their environment. Biomes are often defined by abiotic factors such as climate, relief, geology, soils and vegetation.</p> <p>A biome is NOT an ecosystem, although in a way it can look like a massive ecosystem. If you take a closer look, you will notice that plants or animals in any of the biomes have special adaptations that make it possible for them to exist in that area. You may find many units of ecosystems within one biome.</p>	<p>Describe, explain what biomes are and describe and explain the different major types of land and terrestrial biomes.</p>
2	3-4	1.1.2 Aquatic biomes	<p>Water is the common link among the five biomes and it makes up the largest part of the biosphere, covering nearly 75% of the Earth’s surface. Aquatic regions house numerous species of plants and animals, both large and small. In fact, this is where life began billions of years ago when amino acids first started to come together. Without water, most life forms would be unable to sustain themselves and the Earth would be a barren, desert-like place. Although water temperatures can vary widely, aquatic areas tend to be more humid and the air temperature on the cooler side.</p>	<p>Describe, explain and analyze the features of each type of aquatic system.</p>

			<p>The aquatic biome can be broken down into two basic regions, freshwater (i.e, ponds and rivers) and marine (i.e, oceans and estuaries).</p>	
3	5-6	<p>1.2 Ecological diversity 1.2.1 Study of ecology</p>	<p>Ecosystem diversity deals with the variations in ecosystems within a geographical location and its overall impact on human existence and the environment.</p> <p>Ecological diversity is a type of biodiversity. It is the variation in the ecosystems found in a region or the variation in ecosystems over the whole planet. Ecological diversity includes the variation in both terrestrial and aquatic ecosystems. Ecological diversity can also take into account the variation in the complexity of a biological community, including the number of different niches, the number of trophic levels and other ecological processes. An example of ecological diversity on a global scale would be the variation in ecosystems, such as deserts, forests, grasslands, wetlands and oceans. Ecological diversity is the largest scale of biodiversity, and within each ecosystem, there is a great deal of both species and genetic diversity.</p>	<p>Describe, explain and analyze the features of each type of aquatic system.</p> <p>Describe and explain what diversity is and why is it important</p>
4	7-8	<p>1.3 Ecological relationship 1.3.1 The relationship</p>	<p>Ecological communities consist of interacting or potentially interacting species in the same environment. The direct interactions between species are divided into various categories. Sometimes these complex interactions and the flow of energy</p>	<p>Identify, describe and explain the ecological relationship</p>

			<p>through the system are diagrammed in food webs, which display the movement of energy from lower to higher trophic, or feeding, levels.</p> <p>There are six ecological relationships in which two are oppositional and four are symbiotic. The oppositional relationships are :</p> <p>⇒ Predation and</p> <p>⇒ Competition.</p> <p>The symbiotic relationships are: Mutualism, Commensalism, Amensalism Parasitism.</p>	
5	9-10	<p>1.4 Energy transfer and circulation of ecological</p> <p>1.4.1 Energy transfer in living organisms</p>	<p>In communities, the biological molecules produced by photosynthesis are consumed by other organisms, including animals, bacteria and fungi. ... The transfer of biomass and its stored chemical energy in a community from one organism to a consumer is also not 100% efficient.</p>	Describe and explain energy transfer in living organisms
6		<p>1.4.2 Material cycle of ecosystem</p>	<p>Recycling of Materials in Ecosystems</p> <p>2. Biogeochemical Cycles:-Water, carbon, nitrogen, and phosphorus all take paths from the nonliving environment to living organisms, such as trees, and then back to the nonliving environment. These paths form cycles, known as biogeochemical</p>	Describe and explain how materials are recycled in the ecosystem

			cycles. In these cycles, a pathway is formed when a substance enters living organisms, stays for a long time, then returns to the nonliving environment. Such substances are referred to as cycling within an ecosystem between an organism that lives in the ecosystem and a nonliving reservoir.	
Midterm Examination 2/2018				
1		<p>1.6 Human and natural resources and the environment</p> <p>1.6.1 The type of resource</p> <p>1.6.2 Global warming</p> <p>1.6.3 The destruction of ozone in the atmosphere</p>	Human, Natural, and Capital Resources in the Production of Goods and Services. Natural resources are those resources created by nature. Some examples of natural resources include coal, aluminum, and gold. Coal is a nonrenewable natural resource; there is no way to create more coal once it has been used for fuel.	<p>Explain the factors affecting global warming</p> <p>Explain global warming as a phenomena</p>
2		<p>2 The equilibrium of living organisms</p> <p>2.1 Cell structure</p> <p>2.1.1 Cell membrane</p>	Cell Structure. ... It includes features from all cell types. A cell consists of three parts: the cell membrane, the nucleus, and, between the two, the cytoplasm. Within the cytoplasm lie intricate arrangements of fine fibers and hundreds or even thousands of miniscule but distinct structures called organelles.	Explain homeostasis in cells
3		<p>2.2 Microscope</p> <p>2.2.1 Light microscope</p> <p>2.2.2 Electron microscope</p>	Microscopy is the technical field of using microscopes to view objects and areas of objects that cannot be seen with the naked eye (objects that are not within the resolution range of the normal eye). There are three well-known branches of microscopy: optical, electron, and scanning probe microscopy.	<p>Describe the types of Microscope</p> <p>Identify the parts and function of a microscope</p>

				Be able to use and handle a microscope
4	<p>2.3 Transport of through the cell</p> <p>2.3.1 Transport through the cell membrane</p> <p>2.3.2 Transporting substances using create bags from cell membranes</p>	In cellular biology, membrane transport refers to the collection of mechanisms that regulate the passage of solutes such as ions and small molecules through biological membranes, which are lipid bilayers that contain proteins embedded in them.	<p>Explain how transport in cells is possible</p> <p>Describe each type of transport</p>	
5	<p>2.4 The mechanism of balance of organisms.</p> <p>2.4.1 The balance of water in plants</p> <p>2.4.2 Keeping the balance of acid - base</p>	Maintaining optimal water content is a challenge primarily for freshwater and terrestrial organisms; Ocean waters maintain the water balance of marine organisms (solute balance is a different matter). ... Water balance of single-celled aquatic organisms is mostly determined by osmotic potential.	<p>Explain how balance is achieved in an organism</p> <p>Interpret a diagram</p>	
6	<p>2.4.3 The balance of water and minerals in other creatures</p> <p>2.4.4 The balance of the temperature inside the body</p>	<p>Mineral salts (electrolytes), such as sodium and potassium, are dissolved in the water in the body. Water balance and electrolyte balance (see Electrolyte Balance) are closely linked.</p> <p>The body works to keep the total amount of water and the levels of electrolytes in the blood constant.</p>		
Final Examination 2017 Semester 2				

Course Syllabus (Midterm-Semester 2/2017)

Learning Group: Social Studies

Subject Code:

Subject: Social Studies

Year Level: 11

Total: 2 periods / week

Credit: 1.0

Week	Period	Topic	Contents	Objectives: The students should be able to...
1	1-2	Floods and Droughts	<ul style="list-style-type: none"> - What Are Floods and Droughts and What Are the Causes - Impact of Floods and Droughts - Adapting to Floods and Droughts - Living with Floods and Droughts 	<ul style="list-style-type: none"> • Know the causes of floods and drought (natural and human causes). • Understand the impacts of floods and droughts on human lives and the environment. • Design Strategies to manage and minimize the damage caused by floods and droughts and their effectiveness.
2	3-4	Types of Natural Vegetation	<ul style="list-style-type: none"> - Types of Natural Vegetation - Types of Forests 	<ul style="list-style-type: none"> • To know the Types of Natural Vegetation • To know the Types of Forests • To understand the Influence of Climate on Vegetation Growth

3	5-6	Types of Natural Vegetation	<ul style="list-style-type: none"> - Influence of Climate on Vegetation Growth - Importance of Forests 	<ul style="list-style-type: none"> ● To describe on how Forests, adapt to their environment • To explain the problems in the Coniferous Forests • To explain why the Forests are important
4	7-8	Forests as a Resource	<ul style="list-style-type: none"> - Functions and Uses of Forests 	<ul style="list-style-type: none"> • To understand the Functions and Uses of Forests • To explain how to Maintaining the water Supply • To understand how Replenishing oxygen and removing carbon dioxide works
5	9-10	Forests as a Resource	<ul style="list-style-type: none"> - Functions and Uses of Forests 	<ul style="list-style-type: none"> • To understand the Functions and Uses of Forests • To explain how to Maintaining the water Supply

				<ul style="list-style-type: none"> To understand how Replenishing oxygen and removing carbon dioxide works
6	11-12	Forests as a Resource	<ul style="list-style-type: none"> The Future of Our Forests 	<ul style="list-style-type: none"> To explain why Protecting coasts are important To understand why Natural treatment of waste water is important To understand how the Habitat of Flora and Fauna play together
7	13-14	Forests as a Resource	<ul style="list-style-type: none"> The Future of Our Forests 	<ul style="list-style-type: none"> To explain why Protecting coasts are important To understand why Natural treatment of waste water is important To understand how the Habitat of Flora and Fauna play together

				<ul style="list-style-type: none"> • To see what kind of useful materials can be found in the forests • To see the Food supply in the forests • To understand that the Future of Our Forests are important
8	15-16	Revision Midterm Exam		
9	17-18	Midterm Exam Semester 1		

