LESSON PLAN - Mathematics (Core)
TELMOOC – Lesson Plan

Date	Subject	Year	Period	Time	Number of students	
10/01/2017	MATHEMATICS(CORE)	2017	1 & 2	7:00-8:20am	On Register	Present
					23	23

Subject:	**MATHEMATICS (CORE)**
Topic:	**STATISTICS** **(Constructing Bell Curve)**
Objective:	By the end of the lesson student will be able to: • State appropriate methods for collecting data. • Organize data in a frequency tables. • Calculate the sample mean. • Calculate the variance and standard deviation • Construct a bell curve based on the sample mean and standard deviation. • Read, interpret and draw inference from data/information presented in bell curve.
Skills:	*Students will use analytical, critical and observation skills to gather information; analyse and interpret information.*
Knowledge:	*Students will learn:* • *various methods of collecting data.* • *to organize data in frequency tables.* • *how to calculate sample mean, standard deviation and variance of data set.* • *how to construct bell curve using sample mean and standard deviation.* • *to read, interpret and draw conclusion from bell curve.*
Attitude:	• *Creativity and critical thinking.* • *Collaboration: students to work together in groups in collecting data and constructing bell curve.*
Classroom configuration:	• Small groups, using classroom computers or computer lab. • Computers as rotating stations or small groups, in a computer lab setting. • Small groups with individual student laptops.
Time required:	***80minutes***
Pre-Knowledge:	Students ; • can identify the various sources of data collection.

	• understand the different methods use to collect data. • can convert numbers to percentages.
Resources:	• Computers in classroom or lab & projector. • Internet access. • PowerPoint or Open Presentation software. • Student worksheets. • Graph sheets.

LESSON PLAN ACTIVITIES				
Lesson Activities	**Time**	**Teacher Activities**	**Student Activities**	**Assessment**
Introduction	5minutes	Start the lesson by asking students to explain some of the sources of data collection. Brainstorm students on the different methods of collecting data. Review students understanding on percentages by giving them tasks on numbers to convert to percentages.	Answer questions on the sources of data collection. Explain the different methods of data collection. Students express numbers in percentages	Are students able to identify the sources of data collection? Are students able to explain the different strategies of data collection? Are the students able to express numbers in percentages?
Main Activities	45minutes	**Activities**		
		The main activities will be in two sessions; data collection stage and data analysis stage **In data collection stage:**	Students collect data by printing out examination reports	Are students able to collect data by printing out examinations reports?

LESSON PLAN ACTIVITIES				
Lesson Activities	**Time**	**Teacher Activities**	**Student Activities**	**Assessment**
		Obtain a printout of your grades from one of your desired classes or any reliable data source. Organize frequency tables to represent data collected. **In the data analysis stage:** You will find the mean, variance, and standard deviation of your scores in the class. Through reading and going through the lessons of how to find the sample mean, variance, standard deviation and how to construct a bell curve on the various website links provided, You will then create a bell curve from the data of one of your chosen classes to test the comprehension and application of the subject. Drawing a Bell Curve Steps to draw a bell curve You will work in groups of 2-3 to help each other when needed. Use the bell curve to interpret classes' performances.	(class scores) from school report website. Building of frequency tables to represent data collected (class scores). Determination of mean, variance and standard deviation of class scores and drawing of bell curve through the help of the following websites: Variance and Standard Deviation –Steps to compute the variance and the standard deviation to construct the bell curve. Video for Standard Deviation –YouTube video to help compute the standard deviation. Standard Deviation – Formulas to compute the standard deviation. Overview –A complete overview of the variance, standard deviation, and the rules for the bell curve. Finding the standard deviation with a calculator –Steps for finding the standard	Are students able to construct frequency table to represent data collected? Are students able to calculate the sample mean, variance and standard deviations of the class scores? Are students able to construct the bell curve? Are students able to interpret bell curve drawn?

LESSON PLAN ACTIVITIES				
Lesson Activities	**Time**	**Teacher Activities**	**Student Activities**	**Assessment**
			deviation with a calculator.	
Problem		Groups will put into writing their observations during the data collection and analysis as well as drawing of the bell curve giving a comprehensive account of every action they took in the course of the activity.		
Reflection	20minutes	Each group is to make a presentation to the whole class—describing and explaining to the class in their own words and understanding what they learned from the data analysis and bell shape drawing. Students should ask questions on their colleagues' presentation.		
Evaluation (Assessment)	5minutes	Points will be given based on the accuracy of the given assignment. Students will grade the bell curves of their fellow classmates. Points will also be given for correcting a fellow classmate's bell curve. If there is an error after both have reviewed it, points will be taken away from both students. Points are given based on the comprehension and the understanding of the topic, not effort.		
Conclusion	5minutes	Teacher to discuss any disagreements among groups. Teacher to consolidate students' learning by giving a summary on the activities of the day. By being able to fully construct a bell curve, it allows you to understand how data is interpreted in the real world. Further study of the bell curve can be studied in statistics books and classes.		

References

- http://www.ehow.com/how_8133199_interpret-bell-curve.html
- www.lessonpaths.com/.../zunal-webquest-maker
- https://edshelf.com/tool/zunal-webquest-maker

STUDENT WORKSHEET

The objective of the lesson is to help you represent data using a bell curve

Answer the following questions as you undertake the task given

1. List some of the sources of data collection.

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2. What are the different methods use to collect data?

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3. Express the following numbers into percentages

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   0.2……
   0.6……
   0.8……

4. Construct frequency tables to represent marks of students.

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5. Calculate the sample mean, variance and standard deviation of students' marks.

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6. Construct a bell curve based on the sample mean and standard deviation.

7. Read, interpret and draw inference from data/information presented in bell curve.

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