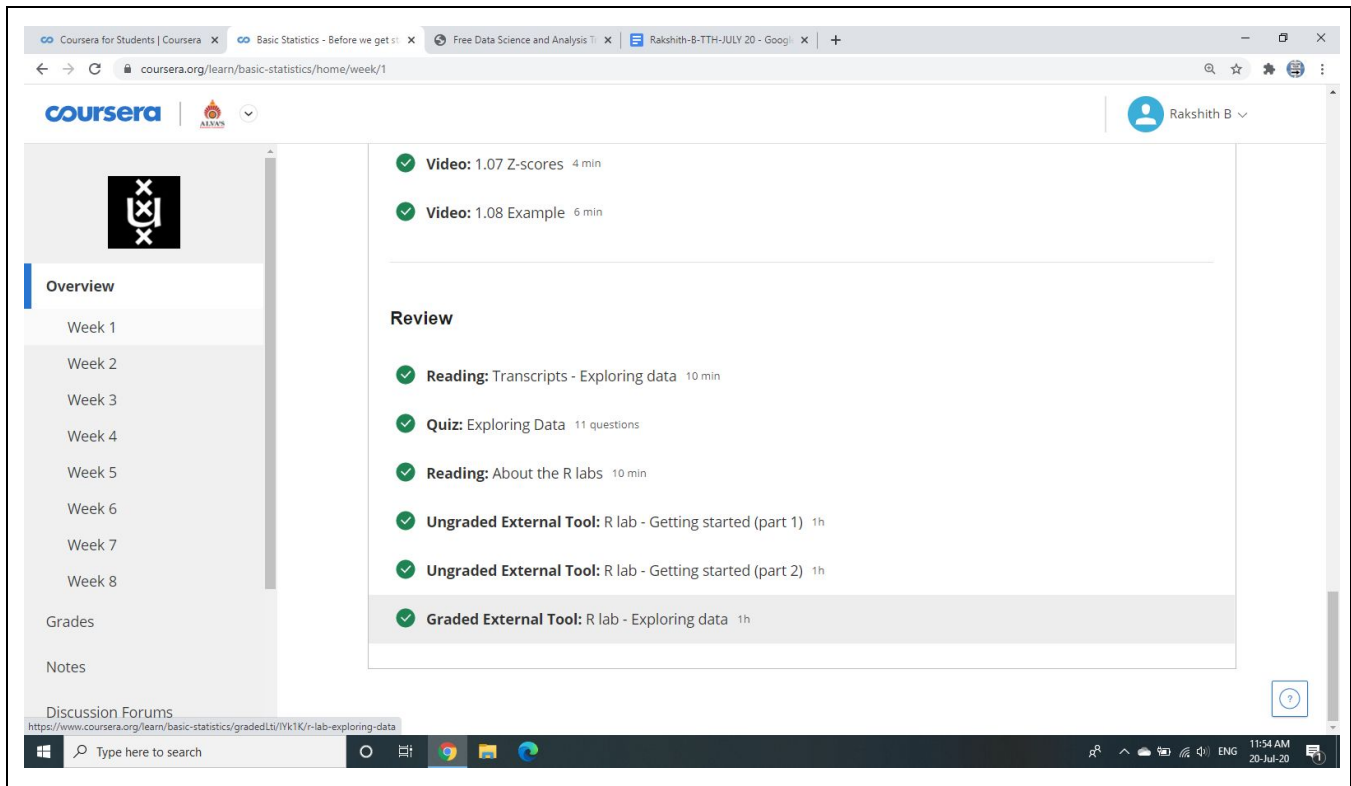


REPORT JULY 20

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Course:	Coursera	USN:	4AL16EC409
Topic:	Basic statistics	Semester & Section:	6th SEM B
Github Repository:	Rakshith-B		

Image of the Session



Hi everybody, welcome to this course on basic statistics. >> Stop, don't turn away. There's no need to be afraid or feel intimidated. At first sight the word statistic might look pretty scary. >> But we'll show you that in reality, statistics is not scary at all. We'll talk about fun things only. Like playing football, scuba diving, eating chocolate. And we'll also discuss hipsters, taxi drivers, babies, and beach holidays. In fact, one of our main goals is to convince you that statistics can actually be fun. >> In this course we'll guide you through the basis of statistics by means of video lectures, short written text, quizzes and an exam. We believe that the basic understanding of statistics is important for at least three reasons. First, there's a lot of statistics around us, in the news and especially in scientific work.

This course will help you to make sense of what's being presented regardless whether it concerns sports, politics, medicine, etc.

Second, knowledge of statistics will help you conduct your own study. How should you analyze the information you get? Which method should you employ?

Third and finally, analyzing the data to learn about the world around us is fun. Hopefully you'll agree after this course. >> We'll make a distinction between two types of statistics, descriptive and inferential statistics. When we talk about descriptive statistics we mean methods of summarizing the information we have collected for an analysis. We can

summarize information by means of graphs. Such as a pie chart or a bar graph or numbers such as a mean, percentage, or correlation coefficient. Inferential statistics is about drawing conclusions about a population on the basis of only a limited number of cases. An example is saying something about all citizens of France on the basis of a sample of relatively few French citizens. >> In total, there are seven modules in this course. Descriptive statistics will be the topic of the first two modules. In the next three modules, we'll introduce the means that will later help us to employ methods of inferential statistics. We'll talk about probability, probability distributions, and sampling distributions. And in the final two modules, we'll introduce methods of inferential statistics. Specifically how to estimate the confidence interval and how to conduct the hypothesis test. >> We will describe all details about scheduling of lectures and quizzes in the course pages. But before we go into further detail, let us briefly introduce ourselves. This is Emiel Van Loon. He teaches statistics and computational methods and researches the movement and distribution of animals in the natural environment. He loves running in the woods and he's quite fond of his vegetable garden. >> And this is Matthijs Rooduijn.

He works as political scientist and teaches statistical methods. His research is about voting behavior and as you will find out during the course, he recently became a father and he likes scuba diving. >> Of course we did not make this course all by ourselves. We are very grateful to Annemarie Zand Scholten who helped us a lot during the development of the program. And the nice drawings you see here are made by Marie-Anne van Stam. Without her, the video lectures wouldn't be so lively and colorful

Each module always starts with a reading that provides a short introduction of the module's general topic. The videos are then introduced and related to each other with a short introductory text. These video introductions should provide some context and help you figure out what you should be paying attention to. We've added these introductions because we wanted the videos to be as short and informative as possible. This means there is no time for small talk in the videos, we start discussing a topic right away! After the text introduction you are invited to watch the video.

The first three videos form an introduction to the basics of **descriptive statistics**. We'll tell you why it makes sense to think about your data in terms of **cases** and **variables**, and we'll show you that the best way to order your cases and variables is by means of a **data matrix**. There are many different kinds of variables out there. To avoid confusion when we analyze them, we distinguish different **levels of measurement**.

When we present our data to others, we often summarize them by means of tables and/or graphs such as **frequency tables**, **pie charts**, **bar graphs**, **dot plots** and **histograms**. We'll also discuss various types of **distributions** of data.

Sometimes researchers want to know if a specific observation is common or exceptional. To answer that question, they express a score in terms of the number of standard deviations it is removed from the mean. This number is what we call a **z-score**. If we recode original scores into z-scores, we say that we **standardize** a variable.

In the example video we'll practice all the skills we've learned so far.

