

Video Project #2

Topic Assigned: Thursday, December 10th by 10:00am

Video Due: Thursday, December 17th by 9:30pm

1 Video Project Overview:

As with Video Project #1, the goal of this Video Project is to showcase your knowledge and skills in statistics at a level accessible to your classmates. This is an opportunity for you to demonstrate your skills in a less stressful (and hopefully more fun) environment than a test!

As before, for ease in submission, students will upload their video to YouTube as an unlisted video and to submit a link to this video. (Details are given below.) However, there are a few changes from the last video project and we encourage you to review this document in full. Most notably, for you have two topic options for Video Project # 2:

- (1) Analyze a Data Set of your Own Choosing,
- (2) Present a (Randomly Assigned) Statistics Concept or Topic¹.

If you chose Option 1, **you must** first obtain approval from the Instructors through the Proposal process described in Section 3. (If you chose Option 2, you may skip this section.)

2 Video Project Timeline:

On **Thursday, December 10th**, unless you received prior approval for a data set analysis (Option 1), you will be assigned a randomly chosen statistics topic or concept (Option 2). These topics/comments are chosen from the following categories:

- a topic that has come up in course,
- a topic that is mentioned in your textbook,
- a classical/well-studied example in statistics.

Your video project will be due the same time as the scheduled final exam ends (**December 17th by 9:30pm**).

3 Proposing a Statistics Data Set:

As we have said many times in this course “Statistics is not a spectator sport!” That’s why we want to make sure you have the option for Video Project #2 to conduct your own statistical analysis of a real-world data set. This project will involve consist of both analysis (coding/statistics) and an oral presentation (your Video Project #2). We are expecting you to be creative in both your questions, analysis and video. We encourage you

¹A list of topics will be posted by Saturday, December 5th.

to produce a high-quality product, not just for the course and this grade, but to be something that you would be proud to feature on your Resume/CV/github when applying for internships/undergraduate research programs as a demonstration of your excellence and aptitude for data analysis.

As mentioned in class, if you want to conduct your own analysis **you must gain permission from the course instructors**. Permission will be gained by submitting a Proposal (as described below) by **Sunday, November 29, 11:59pm**. Course Instructors will offer comments on your Proposal within 1 week. While one possible response is immediate approval as written, if concerns exist with your Proposal, the course Instructors will offer suggestions to help bring your project in line with course expectations.

For your proposal, you are responsible for submitting a **typeset document** (No Handwriting accepted) that includes the following three components:

1. **What:** A description of the data set itself and either a link or upload of actual data set you are interesting.
 - If your data set is small enough, you can upload it to CatCourses. Otherwise provide a link where the instructors can view the data.
 - If your data set is **not yet available** you will have to argue strongly to the Instructors that this will not compromise the ability for you to do your project.
 - Remember, a list of repositories of data sets was provided by the Instructors in Lab # 8.
 - When describing your data, you must follow the format used by the Instructors when presenting data sets in Lab # 8 (i.e., number of samples, types of features provided, etc)
2. **Why:** One paragraph describing why you chose this data set. (If you are proposing to analyze a data set you are gathering yourself, your explanation will be held to a higher standard.)
3. **How:** One paragraph describing what you intend to study with this data set. (Will you compare two quantities? Do you think your data falls into different categories? Do you think any quantities are correlated? Will you look to see if quantities are Exponential, Normal or otherwise distributed? etc)

General Remarks:

- Note that if you are supplying your own data set, it is even more important that you justify and explain your work. If you do not sufficiently convince the Instructor you have a plan for your own dataset, your proposal will not be approved.
- Most datasets you will find are supplied as csv files (comma separated) with a header line. You can open such files in many applications such as Microsoft Excel and R. (In Lab #8 you received guidance in loading and working with files like this.)
- Finally, most of the data sets below (and that you will find in the world) are complex. You are not required to use each data point in your analysis. For example, in the

Presidential Election data set provided in Lab #8 it is possible to do an excellent project considering only the most recent election or only one state.

4 What is Required:

We will post more details, including rubrics for Video Projects of both options. For now, Video Projects of Option #2 we offer these general guidelines.

- 4 - 7 minute video on your topic.
- Your target audience is another undergraduate student in the course. Do not assume knowledge that would be outside the material of the course.
- Your video should have the following four components:
 1. Your video must begin by showing a slide (or other visual aid) and saying out loud each of the following: with your name, our course title (Math 32), your lecture section number, your discussion section number, the semester (Fall 2020) and your topic.
 2. Your video must introduce your concept or idea in both plain language and mathematical language. Pretend you are creating something that could accompany a textbook.
 3. You must go through at least one example of calculation that illustrates the concept.
 4. You must talk about how the idea/topic relates to the rest of the world.
- Your presentation must include visual aids. The easiest way to achieve this is to make slides and record yourself giving a slide show presentation on Zoom.
- You can use **any references you like!** Your course textbook, other textbooks/online resources, other students in the course, Wikipedia, etc. But you must **explicitly state/list all references you used in making your video!** Please note that conversations with another person are a reference and should be cited.
- It is highly desirable that you show yourself, but if you feel very strongly you do not have to.

5 Technical Advice:

Making a Video:

You are not required to use Zoom to record your video! But it is a tool that you all have access to and it's easy to use. You simply use Zoom to start a meeting, share your screen (so we can see your slides) and then hit record and start talking. You may have to ensure the Local Recording option is enabled on Zoom:

How to Make a Recording in Zoom

<https://support.zoom.us/hc/en-us/articles/201362473-Local-recording>

<https://youtu.be/1ZHSAMd89JE>

Uploading your Video:

For ease in submission, we are asking that your video projects be uploaded to YouTube as an unlisted video (i.e., it's viewable only by people who you give the link to and is not searchable). You will then submit a link to this video through CatCourses.

YouTube is easy to use if you have a Gmail account (and a Gmail account is free and easy to get!)

Uploading a video to YouTube is **easy but takes time**. We highly encourage you to leave plenty of time for uploading your video!

How to Upload an Unlisted Video to YouTube:

<https://www.youtube.com/watch?v=jaftEW9WI3U>

6 Preliminary Video Project Rubric: (30 Points)

We will post finalized rubrics for Video Projects of both options. For now, we offer this Preliminary Rubric.

- (3 Points): Speaker shows and verbally states the topic and introduces (name, course, lecture section, discussion section, semester and topic).
- (5 Points): Mathematical and/or Statistics concept is explained clearly.
- (5 Points): Chosen example illustrates the concept clearly.
- (5 Points): Example problem is solved or worked through clearly.
- (5 Points): Concept chosen is connected back to the world beyond the course. (Why is this useful.)
- (3 Points): Effort put into presentation.
- (1 Point): Provides visually or verbally (explicitly states) any references used in preparing their project.
- (3 Points): Video is between 4 - 7 minutes. (1 Point deducted for every minute your video lies outside of this range.)