

Project 2 [6 FPs “Fluency Points”]:

In a two-minute video, demonstrate an experiment from which the damping ratio (or damping coefficient) of a real-life structure is determined

Description:

In a video that lasts no longer than 120 seconds:

- Identify or set up a structure (**NOT rigid body!**) that vibrates freely (not forced), when subject to an initial condition, in or around your house
- Explain the phenomenon and the vibration behavior by conducting a simple experiment to:
 - capture (record) the motion of the vibrating structure (revisit **Project 1!**)
 - visualize the vibration in a displacement vs time plot showing "*log decrement*"
 - estimate the stiffness (k_e), as well as damping coefficient (c) or damping ratio (ξ)
- Compare your experimental results to prior data published by a trusted source
- Discuss sources of error in your experiment, reliability of your data etc.
- Reflect on your journey of working on this project – what have you discovered about yourself through working on this project? How did you connect past experience or knowledge with what you’ve learned from doing this project? etc.

Deliverable:

Present your work in a video uploaded to YouTube, and submit your YouTube URL to Gradescope.

Rules and Formatting:

- This project may be done individually or in a team of two students
- Your video must be in landscape orientation (this is YouTube, not Tiktok...)
- Your video must be less than 120 seconds in duration
- You must show your face(s) for the majority of the video
- You must voice narrate your presentation; simply showing written notes without narration is a violation of this rule
- Your video must be uploaded to YouTube, with the upload date coinciding with (or no later than) your URL submission date on Gradescope
- Violation of any of the above rules will result in automatic forfeiture of your submission

Tips:

- Choose a structure wisely, make sure the vibration deformation is small, natural frequency not too high, and may be approximated as “1-DOF”
- Make it fun yet educational
- Record plenty of raw footage, then edit using a free video editing software
- Speak close to the mic
- Avoid using copyrighted material (music, images and footage) to minimize the risk of

infringement

- Make your YouTube video “unlisted”
- Test your YouTube link before submitting to Gradescope
- See below for how to upload videos to YouTube and how to submit URL in Gradescope

Submission:

Submit your Youtube URL in Gradescope only. Submissions by email or other means will be disregarded.

Due on March 10, 2025 (Monday), at 11:59 pm CST.

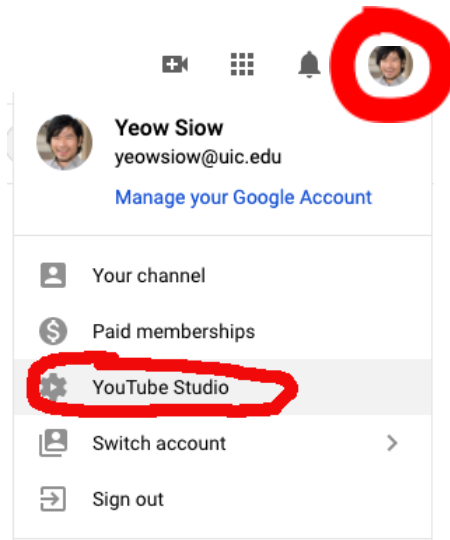
Late submissions are allowed, where partial FPs can be awarded according to the syllabus. Accommodation requests are welcome, as always.

Grading Rubric:

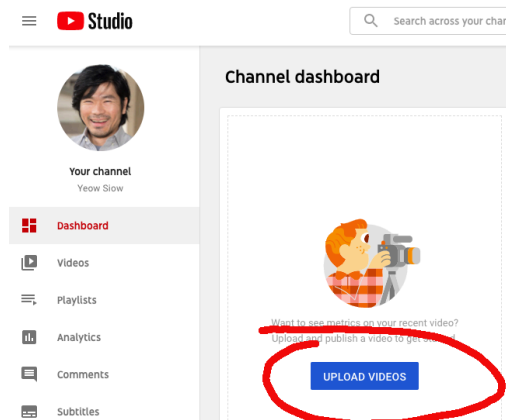
	Fluency			Scaling	Max Possible
	2	1	0		
Technical Rigor	Appropriate structure is used to illustrate the vibration type; experiment is well constructed; observed data is accurately collected and plotted; formulation and calculations are robust	Some obvious details missing	Farfetched, or missing most details	1	2
Professionalism	Presentation of content is coherent and logical; video has good quality visuals, clear audio, smooth "flow" or editing; educational and fun; a joy to watch	Some issues with visuals, audio, and/or production relevance	Can't make out most visuals, barely audible; or production unrelated to project topic	1	2
Rationale, Justification, Reflection	Acknowledges limitations/inaccuracy; identifies sources of error; reflects on this project experience in a thoughtful and authentic manner	Insubstantial or vague	Missing altogether	1	2
Max Possible:					6

How to Upload Your Video to YouTube

1. Sign in to your YouTube account (using your UIC credentials).
2. Go to “YouTube Studio”:



3. Upload Videos:



4. Select your video file, enter your video title and description, and (optional) upload a thumbnail photo
5. Under “Visibility, select “**Unlisted**” as publishing type:

Visibility

Choose when to publish and who can see your video

Save or publish
Make your video public, unlisted, or private

Private
Only you and people you choose can watch your video

Unlisted
Anyone with the video link can watch your video

Public
Everyone can watch your video

Set as instant Premiere ?

How to Upload Your YouTube URL to Gradescope

1. Log in to Gradescope.
2. Select the project:

NAME	STATUS
Project [REDACTED]	● No Submission

3. Follow the instructions there. Nice and easy!

Project [REDACTED]

Q1 Youtube URL
[REDACTED]

Copy and paste your YouTube video URL here. Be sure to test the link first before submitting!

Save Answer

Save All Answers Submit & View Submission >