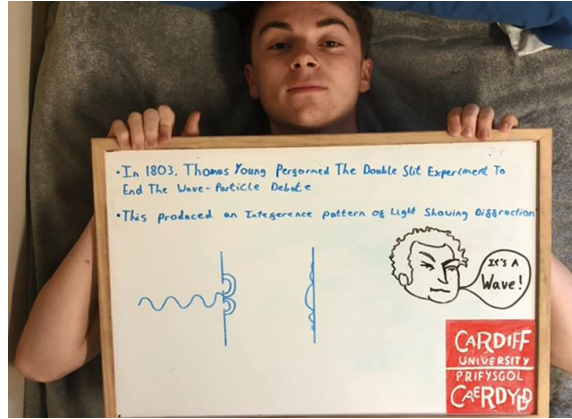


# Video Assignments: A Powerful Way to Introduce Creativity and Fun into your Program!

A Physics Education Story

Dr Annabel Cartwright and Dr Richard James Lewis  
School of Physics and Astronomy

# Types of video assignments we have tried to date



**Year 1:** demonstrate and explain a piece of maths or physics you have learned this year  
(4-week deadline, team or individual)

**Year 2:** demonstrate and explain a specific physics phenomenon  
(whole semester project, team)



**Year 2:** produce a film which demonstrates the contraption you built in a practical session  
(one week to produce the video after the live session, team)

**MSc:** present a business case for an outreach project grant, propose a research plan  
(approximately four weeks in parallel with supporting activities, team or individual)

# Why do this? Here are some academic reasons...

- Allows students to be **creative!**\*\*
- By its nature a **fun** thing to do – very good engagement with this type of assignment
- More practice of **communication skills** – a lot of this is the same (structure, level, professional presentation etc.), as essays/presentations, but the different medium makes it feel refreshing
- **Authentic** assessment, **authentic** teamwork

\*\* Not always many opportunities for this in physics!



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# Why do this? Here is a staff workload and quality perspective...



- Everything is **archived online**, you can take your time to mark, and have more moderation than with live presentations
- No problems with scheduling live sessions, including staffing/rooms
- Generates **very useful resources** for teaching/outreach/open days etc. (remember to ask for permission!)
- Everything is available on LC for external examiners / accrediting bodies

# What do you need to provide?

## Clearly set out the requirements of the task:

- Define the audience
- Specify the topic\*\*
- Assessment criteria/ marks assigned
- Maximum length of video
- Acceptable file formats
- Deadline and clear instructions for uploading

That's all! 😊

**No need to provide equipment or instructions on how to make a video**

PX1230 Maths for Physical Sciences, Video Coursework.

Marks and feedback.

Team members :

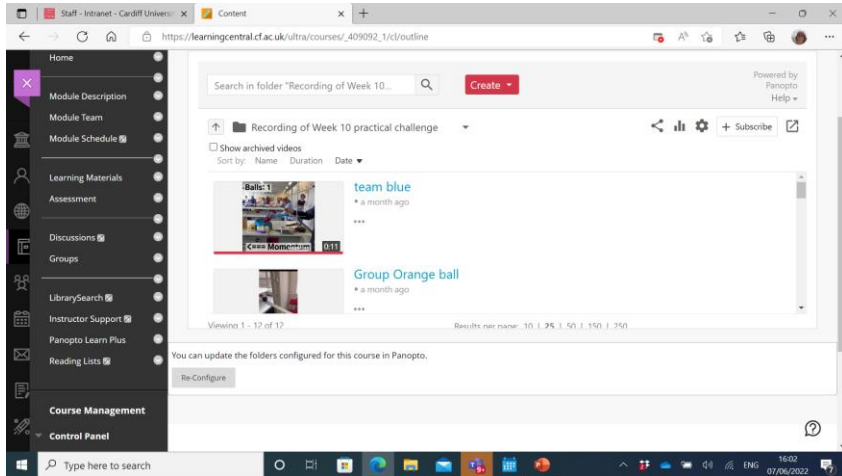
(redacted)

Probability

Criterion	Marks available
Structure, composition and professionalism (how slick is the film?) Very slick, weird and unsettling! Great combination of film, effects, captions and sound.	20/20
Scientific accuracy (is your description of the physics/math correct?) NO, the bit about the C button on your calculator was incorrect, venn diagrams was OK except perhaps some alcoholics are happy?	10/20
Quality and clarity of explanation of the physics (appropriate to a general audience) You did not really explain much, Venn diagrams do really need a diagram!	10/30
Entertainment value (how well have you kept the viewer's interest?) and prominence of the Cardiff University Logo. Fantastic entertainment value, and insight into the lives of my students. Good logo at the end.	30/30
OVERALL Not what I was expecting, but brilliant in its way!	70/100

\*\* not too broad a scope or the students will take forever to decide what to do...!

# Recommendation: use Panopto!



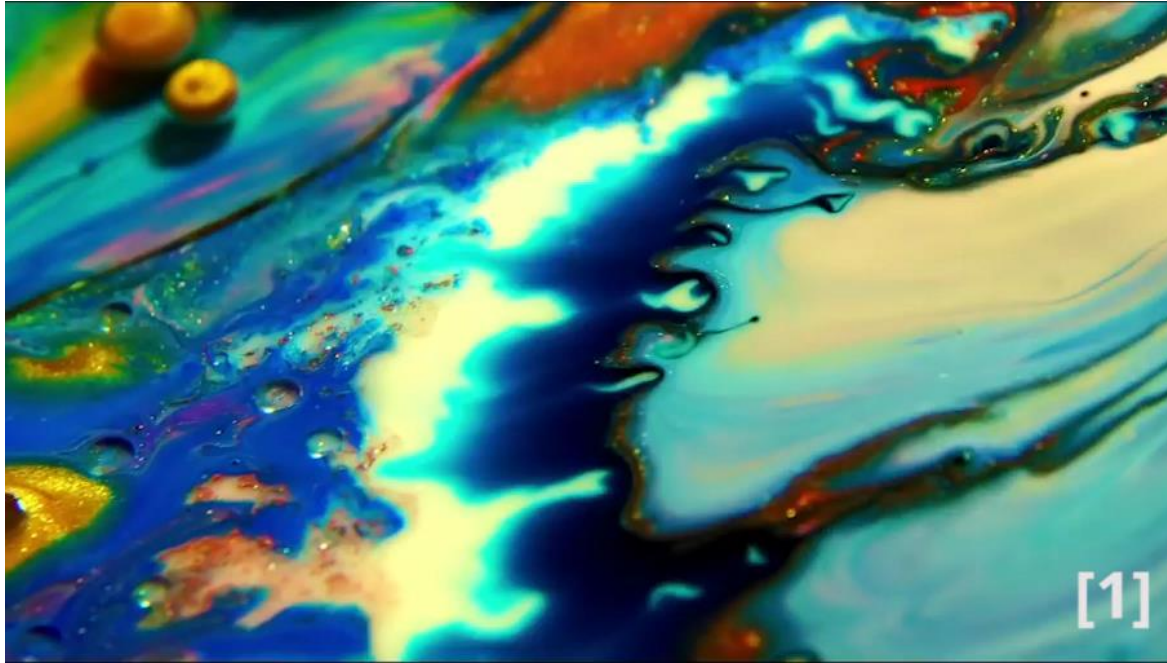
## Use Panopto via Learning Central for the submission of videos

Any videos can be uploaded, they do not have to be produced or edited through Panopto:

- Students cannot see each others' submitted work
- You do not have to worry about backing up
- Easy to make available to other staff for marking and moderating

**Solving this technical problem was the last obstacle to doing this (THANKS, Dig-Ed team!)**

What can you expect?



← references

Very slick talking head videos interspersed with imaginative use of diagrams, cartoons, animations, costume drama, annotated films, maybe even sock puppets!

# Recordings of scrap-heap contraptions...



- Added a whole extra dimension to the task
- Allowed other students to be doing something useful while the contraption was being built
- Required students to identify exactly where their contraption was doing the things we had requested, which meant **they really had to think about it**

← informational overlays



# Bringing creativity back into the MSc core syllabus

- A core MSc group assignment is to propose an education outreach project and pitch it in a video
- Assessment criteria focussed on formal justification, project planning, and contingencies
- In 2022, an MSc group proposed a series of light-hearted educational video shorts and filmed an superbly-written and filmed pilot
- The submission **failed** since it did not meet the assessment requirements ☹️
- The assessment has now been completely re-worked to allow these kinds of submissions
- Everyone wins! 😊



Credit: A. Bennett, D. Crackett, Y. Huang, R. Müller, K. Wong (2022)

# Contact details (please feel free to get in touch!)



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