Freshman Physics End of Semester *Proof of Concept Video Project* Guidelines.

In groups, students will prepare a 3-5 minute *Proof of Concept* video presenting and analyzing a physics phenomenon or theoretical idea from a list provided by the instructor, or on a topic negotiated with the instructor. Other ideas for creative video footage can be negotiated with your instructor. Projects are presented in the last week of classes, and if students wish they may share them privately, semi-privately or even publically online.

The project grade breakdown is as follows:

**Proposal (10%)** – A brief single paragraph that is emailed by the proposal deadline to the instructor, who will negotiate and/or approve the proposal. The proposal should include:

* your working title,
* physics subject and scope,
* list of team members,
* identification of possible safety issues,
* list of materials, resources and/or access required, and
* a rough timeline/schedule for project activity.

**Storyboard and References (10%)** – a rude cartoon layout of first draft of video, due before filming begins. Also a formatted bibliography of 3 relevant peer-reviewed physics publication and other appropriate references.

**Proof of concept video (40%)** -- This initial cut of the video is what you present in the last week of class. It must demonstrate multiple representations (sketches, ray diagrams, energy diagrams, circuit diagrams, free body diagrams, etc) of a physics idea or phenomena including:

* live experimental footage (if possible),
* mathematics and sample calculations,
* scribble (sketches and/or animated drawings), and
* verbal explanation (voiceover).

**Project paper (40%)** -- 3-5 pages double spaced paper (one inch margins and page numbers) due last week of class and must include:

* Abstract 5%
* Brief overview of the presentation 10%
* Transcript of the video 5%
* Discussion of the *proof of concept video* physics and presentation strengths and weaknesses, and suggestions for creating a new improved video 15%
* Conclusions & References (bibliography) 5%

Note this project does not require or expect a commercial quality final video – just a proof of concept video that might later guide shooting a higher quality video. You are required to include a title page in your video with authors’ names, and encouraged (but not required) to include digital rights free music etc. You may not include graphics or stills or music without directly acknowledging the sources in an explicit URL or acknowledgements page. You must have a closing references page including your three references and any others necessary.

While you are encouraged to use your own tablets and phones, the physics department has a set of iPads that can be signed out if desired. Technical assistance will also be provided upon request to anyone who desires it, though asking as early as possible is always recommended (we all get busy at the end of the semester).