

Project Deliverable3 - Project Proposal*(Part 1: Presentation of Proposed Design)***Purpose:**

The purpose of a proposal is to justify the start or continuation of the development of a proposed design. For the purposes of this class, the proposal allows teams to evaluate different design options in a formal matter and present their preliminary decision before proceeding to the building phase. It will allow the team members (and the teaching team) to gain confidence that a successful project will be completed by the end of the course.

Description:

The project proposal will consist of two parts: (1) A 5-7 minute team presentation of your proposed design and (2) written documentation of your proposed design. To select your proposed design, your team **must compare at least 3 different design options (each design option consists of 3 or 4 instruments)**. All three design options must be viable, complete conceptual solutions (they must solve the problem, consider all parts of the system, and meet all requirements and constraints). **Physical principles and mathematical calculations should be used to justify your design decisions.**

For the Problem Definition project deliverable, as a team you have considered ideas for individual instruments (i.e., 3 for “high” range, 3 for “medium” range, and 3 for “low” range). Now you could come up with a few designs (each with a total of 3 or 4 instruments) by combining these ideas. For example, one design option (with 4 instruments) could include the 1st “high” range instrument idea, the 2nd “medium” range instrument idea, the 3rd “low” range instrument idea, and the 2nd “high” range instrument idea, as long as all three types of instruments are presented and all requirements/constraints are met. Another design option could include the 2nd “high” range instrument idea, the 2nd “medium” range instrument idea, the 2nd “low” range instrument idea, and the 1st “medium” range instrument idea.

The proposal presentation and written documentation of your proposed design are both **TEAM deliverables, and should be completed as a team with all team members participating**. Details for the proposal presentation can be found below. Details for the proposal document will be provided in a separate document.

Proposal Presentation Requirements:

The goal of this presentation is to present your proposed design solution to the teaching staff, and your peers in order to provide justification of your approach and to receive feedback and input from others concerning your design.

- Each of the team members should record the individual part of the presentation using a webcam, a camera, etc. Make sure to adjust the light of the room and the angle of the webcam or camera so that the audience would be able to see you clearly. Test the sound and pay attention to audio quality.
- You may edit all the videos into a single video if desired, but this is not required. Some free options for doing this include [Windows Movie Maker](#) or [iMovie](#).
- Visual aids are required for the presentation (i.e., PowerPoint slides, or prezi, etc.) and need to be referred to in the presentation. If you have difficulty using/showing the slides during the presentation, you could still refer to the slide number(s).
- This is a **TEAM** presentation. Even if you don’t edit all of the videos together, make sure to provide a cohesive presentation, i.e., you should consider having ONE introduction, ONE conclusion for the TEAM presentation. Also make sure to pay attention to the transitions and flow between different parts of the presentation. For PowerPoint slides, it is recommend that you edit all parts into one file with consistent background, format, etc.
- Your team’s entire presentation must be 5-7 minutes in length.
- ALL team members must participate in both the preparation and delivery of the presentation.

- This is a formal presentation, and your team should be dressed in at least business casual attire ([Click here for description of professional attire](#) or [here for what business casual means](#)).
- Upload the presentations to YouTube (recommended - set to unlisted) or Vimeo (see instructions in Appendix A.). Post the PowerPoint slides and the video links to the proposal presentation discussion board. Be sure to post the links in the order that they should be viewed.

Proposal Presentation Content:

Your PowerPoint presentation should include the following:

- **Title Slide:** Include Title, Team number, and Team member names
- **Problem Definition & Requirements**
 - Problem statement (**brief** overview of project goals-what are you trying to achieve?)
 - Design requirements (should be as specific and quantitative as possible)
 - **Your** top design goal(s) (i.e. which design criterion/criteria does your team feel is most important; what design goal are you most trying to achieve; what will be your selling point)
- **Proposed Design(s)**
 - Detailed sketch (including approximate dimensions, labeled features, etc.) of your proposed design
 - Description of important/unique design features
 - Description of the underlying physics of your design
 - Brief discussion of how the design will meet all requirements and satisfy all constraints
 - Estimated Budget & Materials list
- **Justification of your proposed design(s)**
 - You must include evidence/rationale to support your design decision. Some examples of forms of evidence/rationale include the following:
 - Current designs/technologies
 - Performance of similar systems
 - Equations/Calculations related to underlying physics
 - Decision Matrix comparing all the possible design options. ***One decision matrix should be used to compare a few design options (each consisting 3 or 4 instruments).***
- **Conclusion/Summary**
 - Tie together all of the parts and summarize as a complete team submission
- **References**
 - A reference slide at the end should include citations of all references used for information (specifically information used for the justification of your proposed design). The source for any images (pictures, diagrams, etc.) used should be cited on the slide on which the image appears.

Proposal Presentation Assessment:

For your proposal presentation, your team will be graded based on (refer to Appendix B for grading rubric):

- Overall effectiveness of presentation
 - Interesting
 - Informative
 - Organized
 - Clear (easy to understand)
 - Speaker Confidence
 - Effective Delivery
- Cohesiveness
- Meeting all requirements of the assignment
 - Includes all required content
 - All team members participate (speak)
 - Provides clear rationale/evidence to support design decision
- Professionalism

Proposal Presentation Deliverables:

- Your team should complete and post the presentation (video links and PowerPoint slides).
Be sure to check course shell for due date.
- Each individual in the team should view the other teams' presentations and post comments, suggestions or questions about their proposed design **by the due date specified in the course shell**. If your team number is even, e.g., team 4, make sure to give feedback to odd numbered teams and vice versa. Make sure that your feedback is constructive (specific, well-reasoned, courteous, focused on improvement, etc.).

Appendix A. Video Instructions

Instructions for uploading your presentations to YouTube are below. To maintain your privacy, please follow these instructions.

- Save your video to your computer.
- Go to <http://youtube.com> and create an account (free), if you don't already have one. If you do not wish to be identified, create a new account with a pseudonym.
- Sign in, and then click on the **Upload** button at the top of the page.
- Click on the **"Select files to upload"** in the middle of the screen and then locate and click on your video to upload it.
- Go to your **"Video Manager"** page.
- Select the video you want to make unlisted. Click the **"Edit"** button to access the video's settings.
- Go to the Privacy section of the page. There you'll see the option to mark your video as "unlisted", "public", or "private". Select **"unlisted"**. Please note: by selecting "unlisted," your video is not found by searching. If you select "private", you only have a limited number of users who can view your video.
 - Problems with setting your video as "unlisted"?
See YouTube's help page at: <https://support.google.com/youtube/answer/157177?hl=en&rd=1>
- Click the **"Save Changes"** button. Once you've done this, your video will be an "unlisted" video. This is available only to people in this class. Please respect the privacy of others; do not share other people's URLs unless you have their written permission!
- **Copy the URL from your video and paste it in the body of your discussion board post.**

Instructions for uploading your presentations to Vimeo are below.

- Save your video to your computer.
- Go to <https://vimeo.com/> and create an account (free), if you don't already have one. If you do not wish to be identified, create a new account with a pseudonym.
- Sign in, and then click on the **"Upload a video"** button on the home page. This will bring to you the upload page where you can upload your video.
- Hit the **"Choose a Video to Upload"** button, select the file you want to upload from your computer, and hit **"Select"** (or Choose). Your video will start uploading to Vimeo and you will see a progress bar telling you how long it will take.
- After your video is finished uploading, it will go through a conversion process. You can monitor that process with a progress bar as well. While the video is converting you may leave that page and Vimeo will send you an email when it's finished.
- **Copy the URL from your video and paste it in the body of your discussion board post.**

Appendix B. Proposal Presentation Grading Rubric

Names:

Team #:

Assessment Item			Pts.
Presentation Length Penalties <ul style="list-style-type: none"> IF presentation ≤ 3 min. score is reduced by 4 points IF 3 min. < presentation < 5 min. score is reduced by 2 points IF 5 min. \leq presentation ≤ 7 min. no score reduction IF presentation > 7 min. score is reduced by 2 points 			
Presentation Requirements (18 points possible) <ul style="list-style-type: none"> (Y N) It is clear who the speakers are (everyone was introduced) (Y N) Everyone in the team spoke (Y N) All sources cited appropriately (citations present, in correct format, and for reputable sources) (Y N) Detailed Sketch of Proposed Design included (Y N) Estimated Budget & Materials List for Proposed Design included (Y N) All team members appropriately dressed (at least Business Casual attire) 			
Problem Definition & Requirements (4pts) [<i>brief</i> overview of project goals; specific design requirements; description of the team's top design goal(s)].			
Description of Proposed Design (6 pt scale defined below) [Important/unique design features described, Sketch shown and described, budget & materials shown and described, etc.]			
Unsatisfactory (0 pts) <ul style="list-style-type: none"> Missing information and/or sketch Unclear/vague discussion of info. Demonstrated lack of understanding of important concepts 	Satisfactory (3 pts) <ul style="list-style-type: none"> Most information & sketch present Most topics discussed clearly and intelligently Some design features, underlying physics, materials described 	Excellent (6 pts) <ul style="list-style-type: none"> All information & sketch present All topics discussed clearly and intelligently All important design features, underlying physics, materials shown and described 	
Justification of Proposed Design (6 pt scale defined below) [Evidence/rationale included to support preliminary design decision including current designs & performance, scientific principles, decision matrix, etc.]			
Unsatisfactory (0 pts) <ul style="list-style-type: none"> Design decisions not adequately supported by evidence/rationale Unclear/vague discussion of info. Demonstrated lack of understanding of important concepts 	Satisfactory (3 pts) <ul style="list-style-type: none"> Attempts made to provide some evidence/rationale to support design decision(s) Most topics discussed clearly and intelligently Demonstrated some understanding of important concepts 	Excellent (6 pts) <ul style="list-style-type: none"> Reasonable justification (evidence, rationale) provided for all design decision(s) All topics discussed clearly and intelligently Demonstrated significant understanding of important concepts 	
Overall effectiveness of presentation (7 pts) [Interesting, informative, well organized, clear, professional, well presented, effective visual aids, speaker confidence, answered questions well, etc]			
Cohesiveness of TEAM presentation (4 pts) [One set of slides with consistent background, format, etc.; Appropriate transitions and flow between parts; One introduction and one conclusion, etc.]			
Total (/45):			