DESIGN PROJECT OVERVIEW

Goal: To engineer a protein for the advancement of a medical or technological problem

Protein engineering applicability: You must make a strong argument for your “Design Project” to be considered a protein engineering project

Timeline and breakdown:
The written reports are divided into 8 homework assignments:
- April 7: HW#1 – Computer prep for PyMOL class (individual)
- April 9: HW#2 – Report on protein sequence and structural analyses (individual)
- April 16: HW#3 – Report on current grants and Design Project ideas (individual)
- April 23: HW#4 – Report on Design Project outline (group)
- May 5: HW#5 – Report on Design Project development (group)
- May 12: HW#6 – Revised report on Design Project development (and final group formation and project goal) (group)
- May 28: HW#7 – Design Project draft (group)
- June 9: HW#8 – Design Project final report (group)

Short oral presentations will be given in class on several dates, with more formal presentations on:
- May 5 or 7: Design Project development: 5-min presentation (using power point or other forms of visual aid)
- June 9: Final Design Project proposal: 10-min presentation (using power point or other forms of visual aid)

Although the end goal is the one unified project, each of the 8 individual HWs and 2 presentations has its own specific guidelines and will be graded separately.

Collaborations: HW#1-HW#3 must be completed and submitted as individual efforts. Beyond those, you can work individually or in a group of up to three students. Until May 5, groups can merge or split, but by then you need to finalize groups. By May 5, each group also must have finalized their main project goal.

Peer review: Following oral presentations, short class segments will be used for peer evaluation.

Bonus points: Although only written and oral reports are required, more creative approaches to illustrate the problem, approach and solution are highly encouraged and will be rewarded with bonus points. Think: figures, diagrams, flow charts, drawings, 3D “arts” projects, PyMOL movies, software, etc.

Formatting: All written assignments should use 0.5” margins, single spaced, Arial 11pt, references should follow a unified format

Restrictions: Your project cannot be closely related to the research direction(s) of any of the group members’ current undergraduate research projects or to the lab’s overall mission (for example, if one of you work in a nanopore lab, your project cannot be focused on nanopore technology).