PEU 218 Projects - Spring 2024

1-2 members Team, will work on a project focused on a problem; the problem could be similar to but more elaborated than the type of problems that appear on the course, or it would introduce a phenomenon and explain its origins. You may also propose a project on a topic relevant to the course material.

The project evaluation is based on:

1. **Purpose:** The extent to which the student identifies the central purpose, or goals of the project.
2. **Content:** The degree to which the student presents information that supports the goals of the project.
3. **Organization:** The extent to which information/content has a logical structure.
4. **Use of references:** The extent to which the student uses and cites appropriate resources in the research project. It is important to acknowledge all used sources, including web-based sources.
5. **Writing skills:** The extent to which the student uses appropriate language/word choice, and writing conventions in the written project.
6. **Presentation skills:** The extent to which the student present project efficiently in specified time & answering questions correctly.

You can submit your project as PDF or PPT file.

Submission link: https://forms.gle/g8pbuRPir3dM935V9

Suggested topics:

1. Planimeter and the Green's theorem.
2. Navier-Stokes equation.
3. Euler momentum equation and the pressure forces on a fluid element.
4. Coriolis theorem.
5. Curvilinear motion in polar coordinate (Kepler's law on planetary motion).
6. Continuity equation in physics.
7. Helmholtz's theorem in electrostatics and magnetostatics.
8. Ampere`s circuital law and Stokes' theorem.
9. Green's theorem in a multiply connected region.

Deadline: Thursday 9/5/2024 (11:45 pm)

Discussion date: To be announced.