

Each team is responsible for submitting three design update reports. The purpose of these reports is to be sure the project is on track incorporate the latest course materials into your project design. These will also allow you get feedback on your designs prior to the final report, of which these analyses are a large part. The report should include all the course-relevant analyses for each of your transmission parts, if you choose to use other transmission parts covered in the book but not in class, such as chain drives, include these in your update.

Scans and handwritten equations will not be accepted. Check OneNote or other apps that can convert hand-written or pictures of equations to typed ones.

The following must be included in your report:

- Team number & members
- Schedule overview: An updated (or initial for DU1) Gantt chart for the project, what you've done and your plan for the remainder of the semester for all team members and tasks, including:
 - Design & fabrication
 - Part selection & analyses based on course material
 - All reports and presentations
- Status of material ordering & challenges currently facing
- An outline of the analyzed parts and relevant analyses covered for each
- An organized and clearly labelled set of the analyses themselves, including free body diagrams where applicable. Each part should start on a new page.
- Include industry and supplier sources where applicable if you use part dimensions and properties outside the textbook.

Design Update 1: Lectures 2-7 – For all three compared designs

- Input constraints and output requirements (based on frame and structural design)
- Drive train design to meet requirements (gear, belt, chain, etc.)
- Shaft design, fits, assembly plan, bearing placement and check the bearing loads are appropriate for the bearing type.

Design Update 2: Lectures 8-12 – Final Design Only

- Strength, Mohr's circle, uniform stress & strain
- Stiffness
- Deflection (superposition or Castiglano's Method)
- Static Ductile Failure

Design Update 3: Lectures 13-18 – Final Design Only

- Stress concentration & stress intensity factors
- Identification of simple, reversed, fluctuating, or combined loading
- Failure criteria, constant life curves
- Identification of the highest loaded bolt joint with analyses (tension, shear, and failure)