1. **Project Description:** In groups/teams of 3 (choose your own team members), teams will design and develop a web-based software application of their choose by utilizing project/software engineering management principles and Model-View-Controller (MVC) architecture/pattern.

   Note: As mentioned, your team's proposed software application must be approved by the instructor and be of adequate scope for an approximate 2-month design/development time-box. Think small-to-medium project scope. Examples could include an employee scheduler application for an organization, an asset management tool for a company to manage and track equipment purchases, an exercise tracker and learning management system, a movie/music/media information database (like IMDB), etc.

   Hint: Follow along with what Lab Instructor has in store for you. The labs will greatly assist you when entering software construction (development) time. Best to follow along with the labs and learn!

2. **Design and Architecture:** You need to go through the structured engineering design process (Figure 1) while considering different factors that can impact the final product. You need to follow the Model View Controller (MCV) architecture. The system must include a database (a model), a user interface (view(s)), and interactive features to enable visual data interactions (controllers).

3. **Design Constraints:** Your solution should consider if not all but at least four from the following list of design constraints

   a. Economic factors
   b. Regulatory compliance (Security and Access)
   c. Reliability
   d. Sustainability and Environmental Factors
   e. Ethics
   f. Societal Impacts

4. **Teamwork:** Each group must uphold the best teamwork strategy, including team formation, time management, and conflict resolution.

5. **Presentation Requirements:** Put everything on GitHub. The entire GitHub project should be 'self-documenting' and
   - The project should include a REPORT.md file describing the use instructions of your application and providing other details according to the Project_File_Template available on UR courses.
   - Your team's GitHub must remain public for the duration of ENSE 374, at a minimum. Remember, your GitHub is your portfolio of work for future employers to understand the type of experiences you have had, so keeping it public for long-term is not a terrible idea.
   - All the code should be well commented.

6. **Project Deliverables:** Besides fulfilling the presentation requirements, following will be delivered while following the given schedule
   a. A fully functional prototype
   b. Technical report (REPORT.md)
   c. Oral presentation (Format is available on UR courses).

S. No.	Deliverables	REPORT.md Components	Timeline	Weight
1.	Problem Definition/Business Case	Section 2.1 (in project file template)	4th Week	20%
2.	Design Constraints and Requirements (Project Charter)	Section 2.2	5th Week	10%
3.	Iterative Engineering Design Process	Section 3.1 – 3.2	8th Week	20%
4.	Final Design and Implementation	Section 3.3	12th Week	10%
5.	Project Management and Conclusion and Future work	Section 5 - 6	14th Week	10%
6.	Collaborative Teamwork	Section 4	All Weeks	30%

- Students are required to fill Teamwork and Project Management sections (Project_File_Template.pdf on UR courses) of the report (REPORT.md) simultaneously with every report component and should be updated regularly.
- After 3rd week, weekly meetings will be held to monitor the progress of the work.
- For every late submission, 10% penalty will be imposed per day.
- All the deadlines are hard deadlines. Timeline means last day (Sunday) of the corresponding week before 23:59:59.

7. Submission Instructions:

- Due: Week 14, Friday, December 06, 2024, 23:59:59
- Be sure to commit and commit often. I will use GitHub to review your solution.
- Please email me (through URcourses) the GitHub project names and the hashes of the commits you are submitting to make sure we are looking at the same code.
- Remember, I will mark the project using the rubric available on the URCourses.

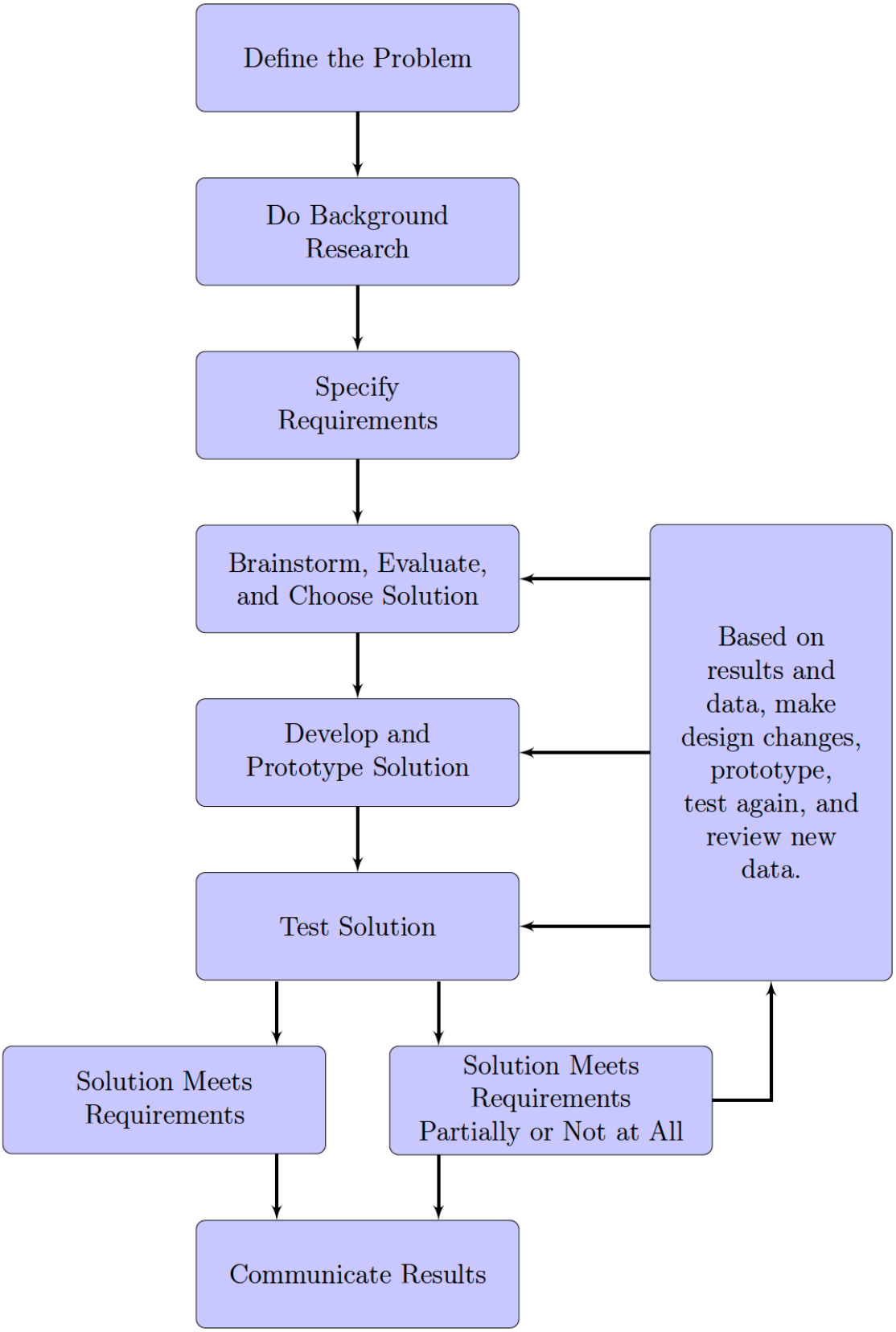

Figure 1: Engineering Design Process