

## Period 1 Project Plan

- Goals and Tasks for Botball 2019

- Game Goals and Tasks

- Understand Game Rules - complete by 1/25/2019

- Distribute copies of rules and game review to every member - complete by 1/23/2019
- Hold discussion clarifying rules - complete by 1/27/2019

- Build an accurate practice board - complete by 2/1/2019

- Delegate and complete PVC build - complete by 1/28/2019
- Delegate and complete medical centers and skyscrapers - complete by 2/1/2019

- Write strategies - complete by 2/5/2019

- Decide what game pieces net the most points with least work - complete by 2/2/2019
- Decide and vote on order for game piece retrieval - complete by 2/4/2019

- Robot Building Goals and Tasks

- Prototype effector designs - complete by 2/10/2019

- Design how to raise and lower a claw - complete by 2/6/2019
- Design claw size and geometry - complete by 2/9/2019

- Build Lego robot - complete by 2/20/2019
  - Attach claw and forklift - complete by 2/13/2019
  - Attach reservoir collection mechanism - complete by 2/17/2019
  - Attach drive system and calibrate PID line following - complete by 2/19/2019
- Build Roomba robot - complete by 2/25/2019
  - Attach lifting mechanism for claw - complete by 2/15/2019
  - Build claw rotation mechanism - complete by 2/20/2019
  - Test claw height and precision - complete by 2/25/2019
- Programming Goals and Tasks
  - Implement PID line following - complete by 2/15/2019
    - Implement numerical integration method - complete by 2/10/2019
    - Implement numerical differentiation method - complete by 2/15/2019
  - Implement default program for Create robot - complete by 2/20/2019
    - Rewrite motor drive functions based on position - complete by 2/15/2019
    - Add claw manipulation functions - complete by 2/17/2019
  - Implement default program for Lego robot - complete by 2/25/2019
    - Write precision turning method - complete by 2/20/2019
    - Add PID line following to program - complete by 2/25/2019
- Documentation Goals and Tasks

- First Period Documentation Complete - complete by 1/26/2019
  - Meeting to set schedule, assign aspects of the project, decide on leadership - complete by 1/23/2019
  - Discuss building and programming goals as a group - complete by 1/23/2019
- Second Period Documentation Complete - complete by 2/20/2019
  - Refactor Github repository - complete by 2/15/2019
  - Record detailed parts lists - complete by 2/15/2019
- Third Period Documentation Complete - complete by 3/10/2019
  - Create survey for lessons learned - complete by 3/5/2019
  - Look back at past work to conclude - complete by 3/10/2019
- Schedule Conflicts
  - President's Weekend - 2/15/2019-2/18/2019
  - Model UN trip - 3/3/2019-3/10/2019
  - Teacher In-Service Day - 3/11/2019
- Team Organization
  - Schedule of Meeting Times
    - Workshop - 1/20/2019 - 1/21/2019
    - Greater Chicago Tournament - 4/7/2019
    - January Schedule - 1/27, 1/30
    - February Schedule - 2/3, 2/6, 2/10, 2/13, 2/20, 2/24, 2/27
    - March Schedule - 3/3, 3/6, 3/13, 3/17, 3/20, 3/24, 3/27, 3/31

- April Schedule - 4/1, 4/2, 4/3, 4/4
- Division of Labor
  - Head Coach: Greg
  - Faculty Advisor: Mrs. Murphy
  - President: Alex
  - Head of Building: Joseph
  - Head of Programming: Josh
  - Head of Documentation: Shoshana
- Conflict Resolution
  - Team members should begin by attempting to work out their disagreement amongst themselves, remembering everyone's opinion matters and should be listened to.
  - If this process fails, team members should approach the robotics team president, Alex.
  - If the issue remains unresolved, team members should involve Greg and Mrs. Murphy. They can make an executive decision or hold a team vote, where the majority opinion will be adhered to.