



To: Dr. Sara Oman

From: Team 7

Date: March 16, 2018

Re: Analytical Analyses I Team

Saoud Alenezi: He is in charge of the budget of the group. Saoud is going to compare and contrast the material of the BIOM test fixture, he is going to compare between using carbon fiber material or aluminum material. Using what he studied in material science and chemistry, he will find which material last longer, lighter in weight and more flexible (when it comes to building it). After finding which material would be the best one to choose, we will meet as a team and discuss the effectiveness, cost and efficiency.

Saoud Alenezi: He is in charge of the website developer. He will try to see which is better using hydraulic system or pneumatic system, that would be much more similar to the prosthetic leg movement. He will try to see which system is easy to move and durable without changing anything in it (example adding a fluid from time to time for the hydraulic system). From what he studied in Fluid Mechanics and Thermodynamics to find which system is the best to be similar to a prosthetic leg. The last part is to meet with the team and discuss the effectiveness, cost and efficiency.

Naser Alowaihan: He is in charge of the document manger. He will try to compare types of batteries that would last longer. He will look at Lithium battery and Alkaline & Carbon Zinc to see which one has safety, long lasting and work efficiently. The classes that he needs are Material Science and Electrical engineering to find which battery is the one to choose. The last thing that is needed is to meet with the team and discuss the effectiveness, cost and efficiency.

Marzouq Alenezi: He is the project manager of the group. He will calculate the time it needs for each type of size of prosthetic leg. He will try experimenting the BIOM test fixture on three sizes and after that he will find an equation that would calculate the time it needs for each size. After studying physics, he will find the equation that needs to be calculated. After finding the equation we need to discuss as the team if the equation is right or not.

Husain Alshammari: He is the client contact. He will calculate the power needed to move the prosthetic feet to move in 45 degrees and back to zero. He will use Dynamics class knowledge to understand how to calculate the power. The power needs to be calculated in order to know the capacity of the battery that would be best for this BIOM test fixture. After finding the power needed we need to check if the power is right as a team.