Objectives for the pneumatic robot:

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| **Objective** | **Importance** | **Description** |
| Safe brown out conditions | 5 | Robot should power down into a stable position |
| Emergency Stop | 5 | Robot should lose power with one button press |
| Self-collision protection | 5 | Robot should not be able to hit itself |
| Onboard power | 4 | All batteries must be mounted on the chassis |
| Four legs | 4 | Robot must have four legs |
| Pneumatic Locomotion | 4 | Robot must walk using pneumatics |
| Flat Surface Walking | 4 | Robot must walk on a flat surface easily |
| Easy Debugging | 3 | Electrical panel used for signal debugging |
| Walking Backward | 3 | Robot should be able to move backward |
| Joystick Controlled | 2 | Robot should be controlled via joystick |

Constraints for the pneumatic robot:

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| **Constraints** | **Importance** | **Description** |
| Fuses | 5 | Robot must have fuses to protect electronics |
| Wire Organization | 5 | Robot must have clearly organized and labeled wires |
| Load Weight | 4 | Max load should be 1.25 times robot weight |
| Walking Motions | 4 | Robot should have a creep gait |
| Maximum Speed | 3 | Maximum speed of 0.5 m/s |
| Maximum Weight | 3 | Maximum weight of 15 kg |
| Maximum Size | 3 | Maximum size of 1m tall x 0.75m tall x 0.75m wide |
| Pneumatic Battery Life | 3 | Robot battery life of 3 hours minimum |
| Cost | 3 | Maximum cost of $10,000 |
| Startup Time | 3 | Startup time of less than one minute |
| Disturbance Recovery | 2 | Robot remains stable even if disturbed by up to 10N |
| Microcontroller Battery Life | 1 | 2 month microcontroller battery life |