UNC CHARLOTTE
The WILLIAM STATES LEE COLLEGE *of* ENGINEERING

Senior Design Project Description for FALL 2016
Project Title: Wheelchair Automatic Lift (DUN_LIFT)

Supporter: Dwayne Dunham
Supporter Technical Representative: ASSIGNED
Faculty Mentor: _____ ASSIGNED __X__ TBD (check one)
Single Team _____ Dual Team _____ (check one)
Personnel (EN/ET): __2__ E, _____ Cp, _____ Cv, __3__ M, _____ SE
(Complete if the number of students required is known)
Expected person-hours: (250 per student)

Description of Project:

Nursing home employees and other care givers often have to lift patients in and out of a wheelchair to transfer them to and from the wheelchair and the bed. In some instances either the patient or the care giver can be injured from this. It also requires the patient to be totally reliant on the care giver.

This project is to design a proof of concept for an automatic lift device for the wheelchair that can extend the wheelchair seat to aid in this process.

Initial Project Requirements (e.g. weight, size, etc.):

The lift can be hydraulic, electric or other mechanism. The wheelchair automatic lift must comply with the following:

- Power source is to be a rechargeable battery
- Total lift is to be from 8" to 10"
- Maximum weight to be lifted is 300 lb.
- The seat must be capable of swinging to the left and right side of the wheelchair
- The control assembly is to be movable
- The lift device must be capable of being removed and attached using quick release pins and connectors such as Cannon plugs

Expected Deliverables/Results:

The deliverable will be a proof of concept. A bill of material and assembly instructions will be provided.

List here any specific skills or knowledge needed or suggested (If none please state none):

None