



UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE of ENGINEERING

Senior Design Project Description

Company Name	<i>MEGR Department UNCC</i>	Date Submitted	<i>11/21/18</i>
Project Title	<i>Custom Occupational Prosthetic Design (UNCC_ARM)</i>	Planned Starting Semester	<i>Spring 2019</i>

Personnel

Typical teams will have 4-6 students, with engineering disciplines assigned based on the anticipated Scope of the Project.

Please provide your estimate of staffing in the below table. The Senior Design Committee will adjust as appropriate based on scope and discipline skills:

Discipline	Number	Discipline	Number
Mechanical	5	Electrical	
Computer		Systems	
Other ()			

Company and Project Overview:

Brian Dutterer has been the Mechanical Engineering Department machinist for many years. On August 30th 2018, Brian and his wife were injured in a motorcycle accident which cost him his hand and lower arm. His hand and arm were amputated just shy of 4” past the elbow. Their story and updates can be found here:

https://www.gofundme.com/61qcpt4?fbclid=IwAR3LajB4Mez8lty0Ehq1HDOTZEbDYbxF7vE1N5yY_S7Dz7ABuy-uC3IdAmk.

Brian plans to return to the University this spring and is in need of design support for custom prosthetic devices that can help him perform various tasks related to his role as machinist and instructor. The objective of this project is to design prosthetic device(s) that help him perform key activities related to his craft as a master machinist.

Project Requirements:

The requirements of this project are to audit key activities that have become complex to perform and designs solutions that make it possible to do this activities with the help of custom prosthetics.

Expected Deliverables/Results:

- Audit of key activities a machinist has to perform with two hands.
- Report of various types of prosthetics that can address various activities through innovative design.
- A working prosthetic that enables Brian to perform common tasks as a machinist.



UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE of ENGINEERING

Disposition of Deliverables at the End of the Project:

Hardware developed is the property of the MEGR department and Brian Dutterer.

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