

## Mechanical/Aerospace Project

### Space Suit – Improved Functionality & Mobility

#### Mission Statement

The goal is to research the use of advanced techniques and materials, such as Shape Memory Alloys and additive manufacturing, to develop improved space suit components that are easier to use and universal instead of specialized

#### Synopsis

The Space Suit team has designed and prototyped unique space suit components, such as micro scissor lifts, to incorporate the use of Shape Memory Alloys. The Shape Memory Alloys are used to move the scissor lift while latex is used to move it back to its original state. The scissor lifts have been integrated into a full boot design. The team has also researched the use of soft engineering and compressed air as actuators to expand and contract different components of the Space Suit. We believe that both of these techniques will lead to a better space suit that is lighter, easier to take on and off, and provide better mobility while worn.



Jonathan Carothers	Gateway CC
Michelle Debs	Housatonic CC
Zachary Hazzard	Manchester CC
Marwane Taroua	University of Connecticut