



QUALITY
OF LIFE +

PROGRAM OVERVIEW

Equipment and Technology

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My Inspiration

- 52,969 Wounded in Action as of Aug 28, 2019
- Burns
- Traumatic Brain Injuries
- Spinal Cord Injury/Paralysis/Hemiplegia
- Blindness
- Amputees (co-morbidities, > 1 limb loss)
- Multiple fractures, multiple surgeries
- Blast injuries, GSWs/open wounds/skin grafts
- Vestibular trauma, Hearing loss
- ICU patients with multiple medical problems
- Conversion Disorder and PTSD



Ride2Recovery/Project HERO



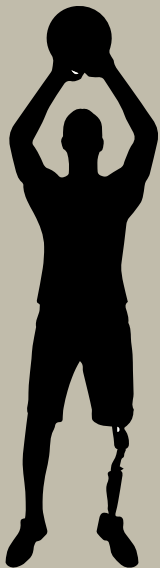
Quality of Life Plus (QL+) MISSION

To foster and generate innovations that aid and improve the quality of life for those who have served our country.



We serve members of the military, veterans, first responders and public servants with life-altering injuries or illnesses-our Challengers

LEVERAGING INNOVATION TO IMPROVE QUALITY OF LIFE



Giving disabled Veterans and First Responders greater independence and access to everyday activities.

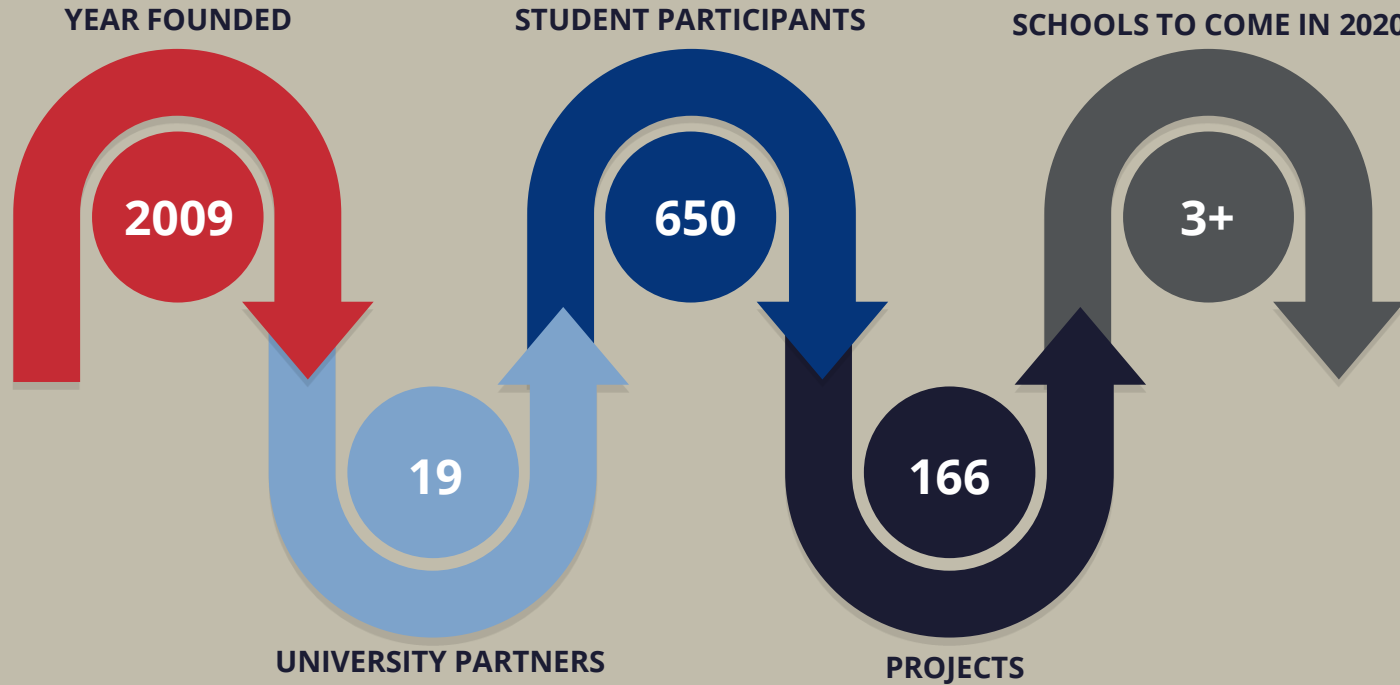


Fostering respect and appreciation for those who serve and protect the nation.



Developing a Science, Technology, Engineering and Mathematics (STEM) workforce.

BY THE NUMBERS



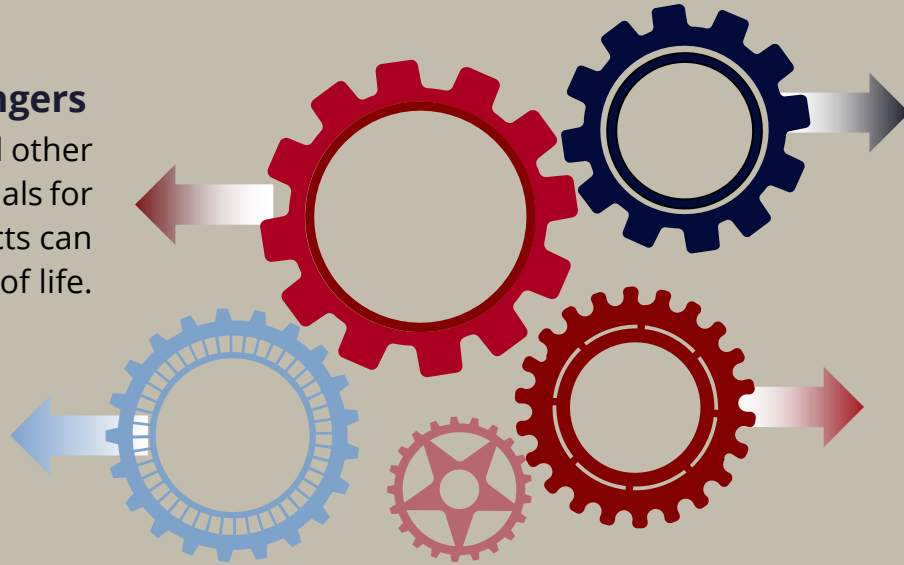
QL+ Process

Challengers

QL+ recruits veterans and other eligible disabled individuals for whom student projects can improve their quality of life.

Challenges

QL+ offer challenges to a partner university for accomplishment as a Capstone project or a senior project.



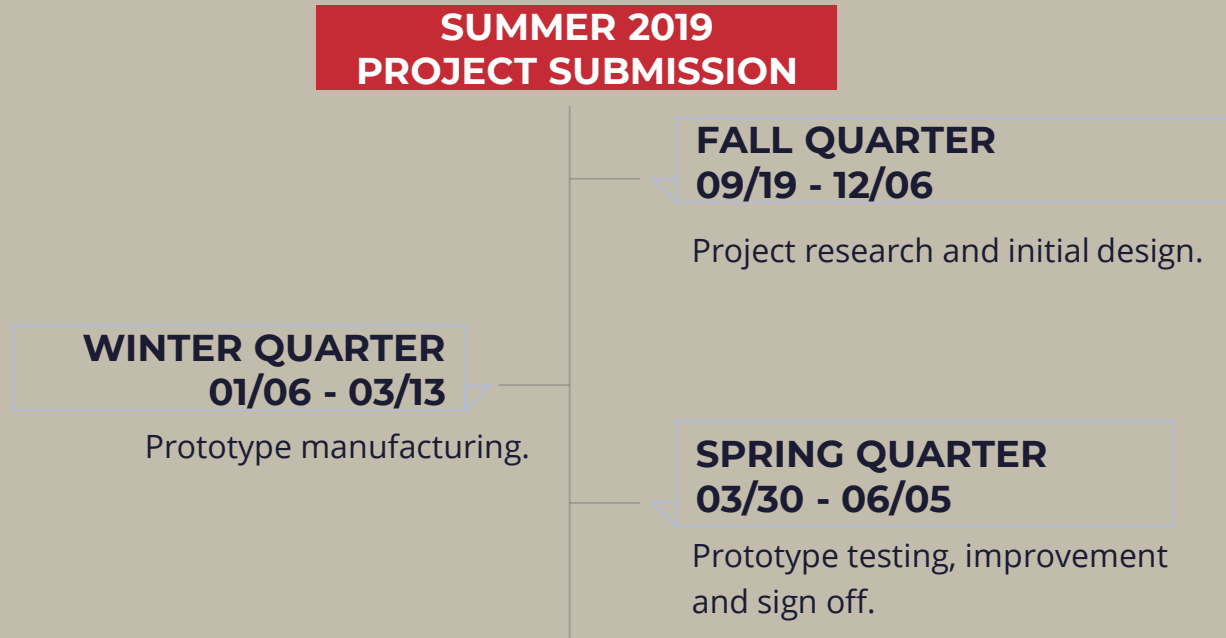
Faculty Advisor

University provides a Faculty Advisor and forms a team of 4-8 students.

Program Manager

QL+ provides a Program Manager and financial support for all projects.

Example of Cal Poly Timeline

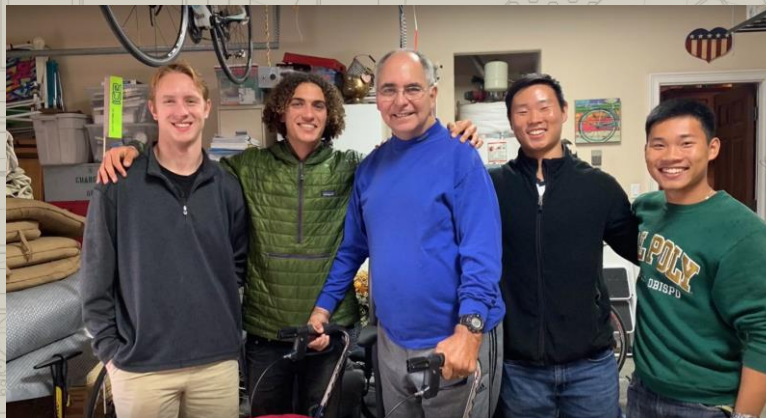


Examples of Challenges for Cyclists

- Transfer System for Recumbent Bike
- Butt Brake
- 1-Arm Handcycle Adaptation
- Voice Activated Shifting
- Recumbent Bike Lift
- Customized handcycle grips
- Power Assist Handcycle (in hub or rim with kinetic energy)



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RECUMBENT BIKE TRANSFER TEAM

Mechanical Engineering Senior Design Project

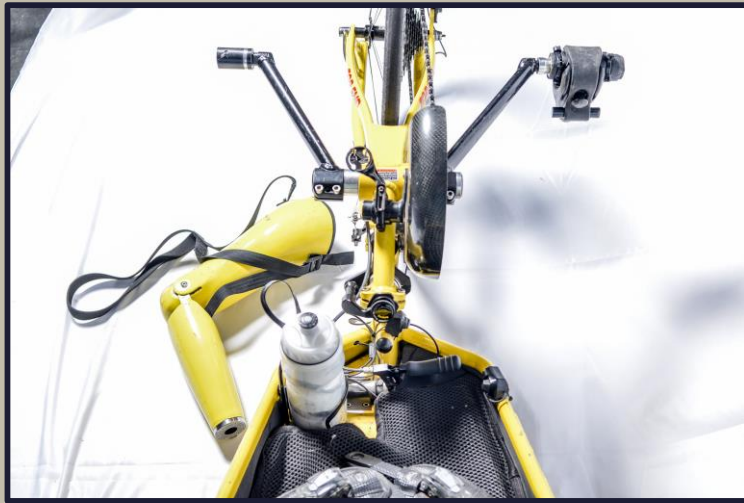
John Kulick
Jack McAtee
Joseph Lee
Huy Nguyen





Finished Butt Brake Project





Challenger Tim Brown, Mentor Scotty Moro (Adaptive Cycling Foundation) and Univ of Dayton students



Challenger: Nick Kimmel
Combat Wounded Marine

1-arm Handcycle Challenge

Cal Poly Engineering Students:
Ryan, Alex, Sean



Marine with Double Transfemoral Amputations

Rode on Upright across US: 5200 miles



Sports and Recreation-Related Projects

Manual Beach Wheelchair
Comfortable Handcycle Grips
Baby Trailer Handcycle Mount
OI Waterproof Cover
Thermoregulation
Sled Hockey Transfer
Amputee Speed Skate
Archery-Straight Shooters
ATV Wheelchair Rack
Surf Leg
Mono-Ski Transport
Race-Walk Cane

Recumbent Bike Loading
Stand Up Paddling (SUP)
Snow Tube Harness
Better Knee Brace
Wheelchair Motorcycle Attachment
Surfboard Control
Mixed Martial Arts Leg
Fishing
Recumbent Bike Transfers
Sand Foot
ATV Wheelchair Rack v2
Adaptive Mountain Bike

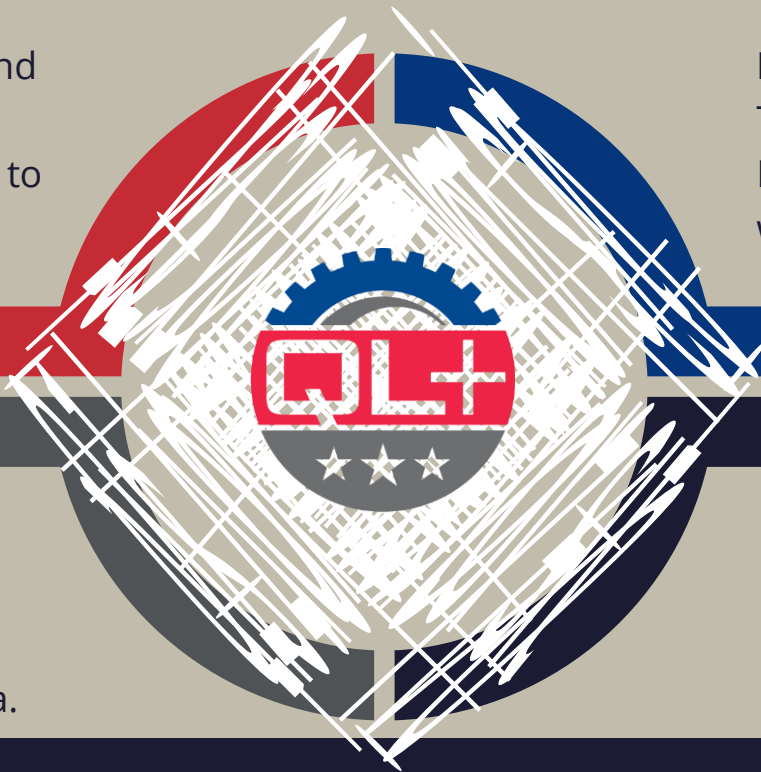
The QL+ Program is unmatched in its impact

Giving injured veterans and 1st responders greater independence and access to everyday activities.

Developing a Science, Technology, Engineering and Mathematics (STEM) workforce.

Fostering respect and appreciation, by the students, for those who serve and protect America.

Creating life-transforming assistive technology for our country's injured heroes.





"The ability to tell an engineer exactly what would make my life better and have my opinion be part of the design process is exciting and innovative. I'm proud to be part of this amazing program."

QL+ CHALLENGER TAMMY LANDEEN



THANK YOU

For more information and resources, visit QLplus.org or reach me at

✉ Barb.springer@qlplus.org

Engineering An Improved Quality Of Life For Those Who Served.