Université Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Department of

MECH 490 Capstone Mechanical Engineering Design Project

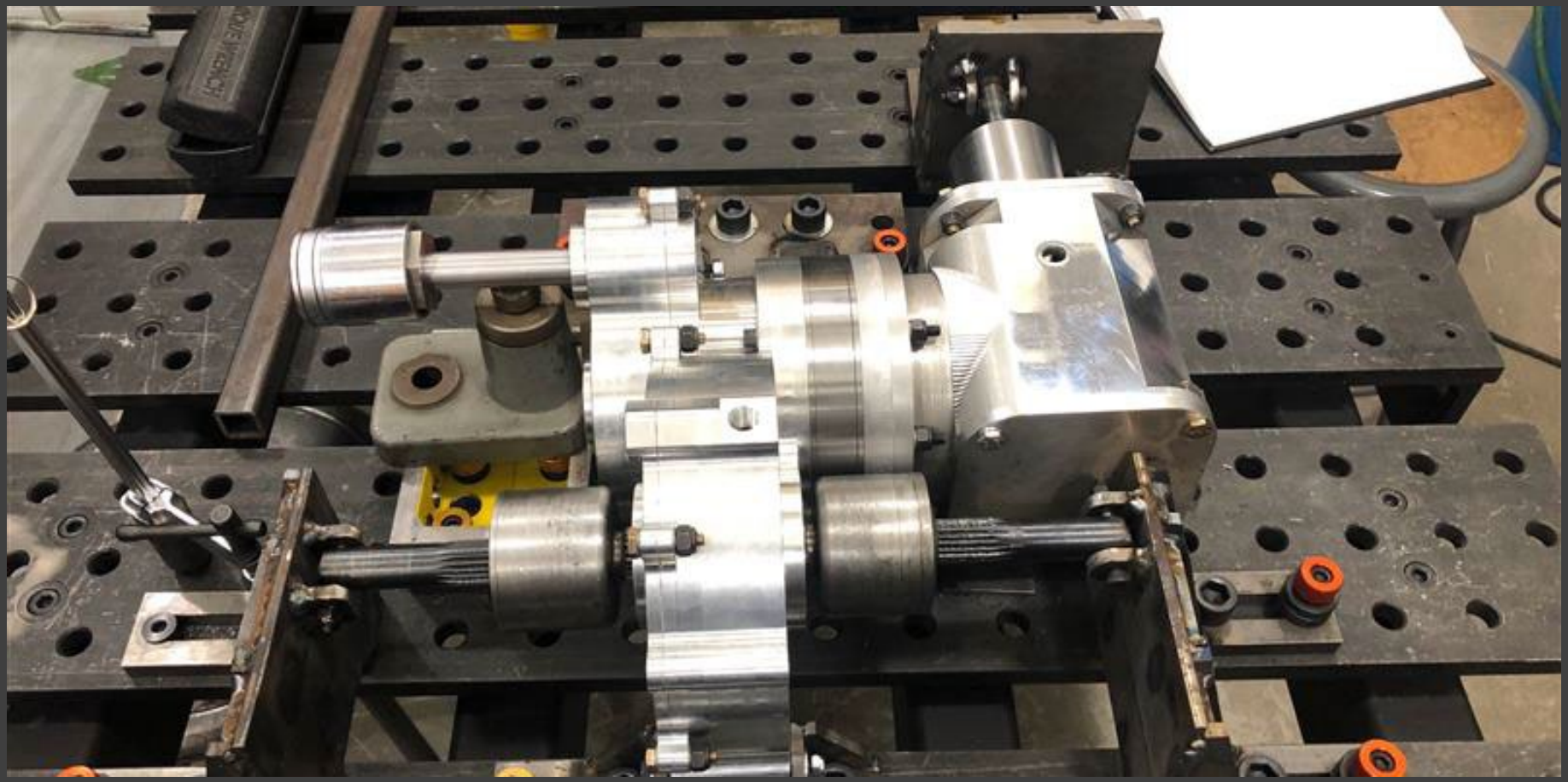
2020-2021

Concordia University's Mech 490 program challenges teams of students in a real-world rapid turnover hardware prototyping program.

Projects span multiple customer types including internal extracurricular, research, external industry sponsors and inventions. The capstone engineering design project trains the student to pursue an engineering design problem in considerable width and depth. It also provides an opportunity for the student to demonstrate good judgment and the capability to solve open-ended design problems in mechanical engineering. The design of a product or a system carried out in the project requires the students to design, analyze, manufacture and synthesize knowledge gained throughout their program to realize specific objectives.

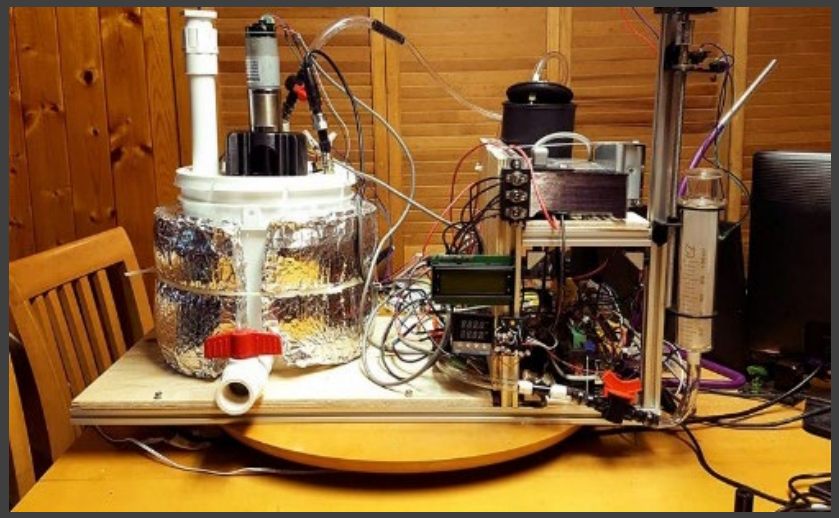
This year, although with Covid-19 restrictions, the Capstone project was delivered successfully by 28 teams.

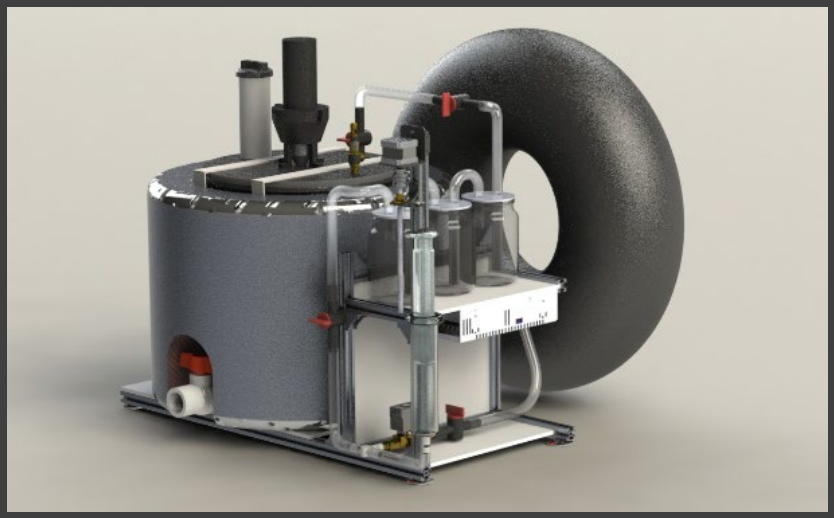
***Highlights from 2021 include*:**



- SAE Baja’s 4wd drivetrain for internal extracurricular group. A full-scale assembly intended to prepare the next generation of SAE Baja for four-wheel drive.

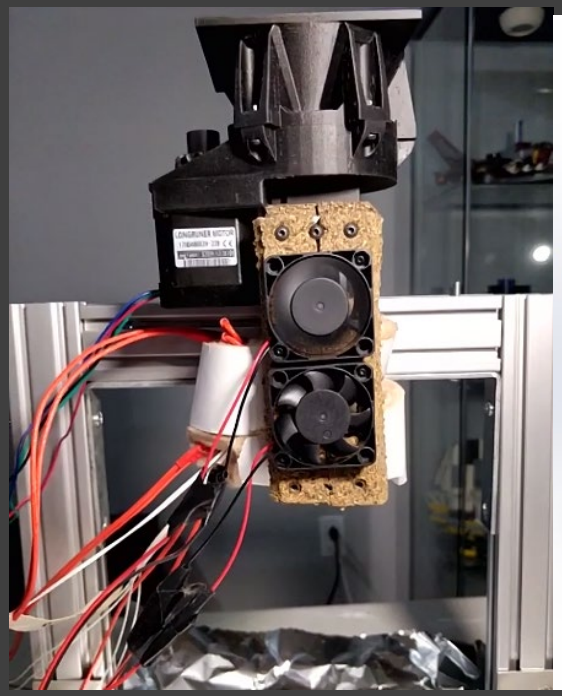
- Space – Propulsion for internal extracurricular group. Prototypes for a 40kn KeraLox rocket engine.

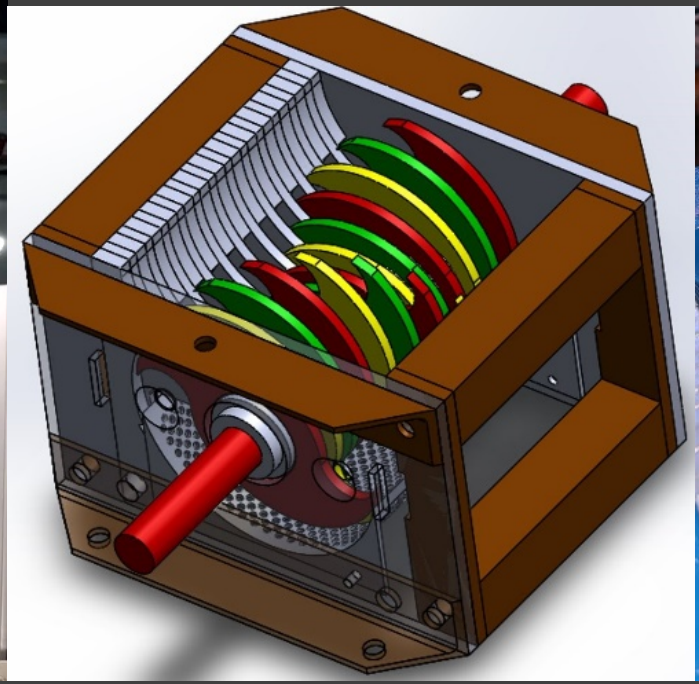


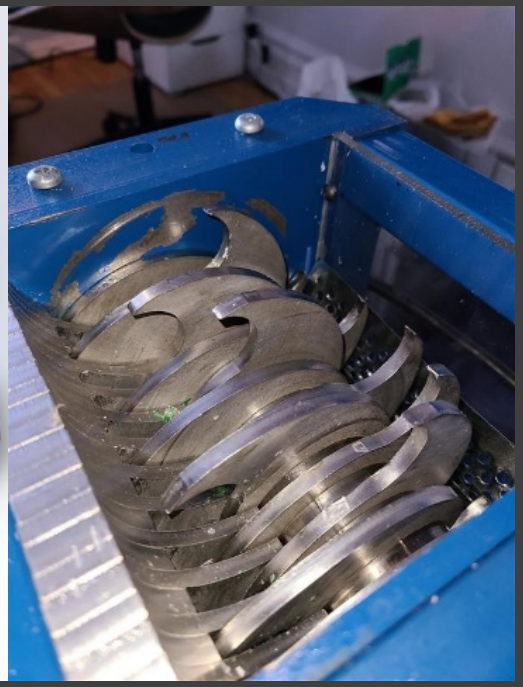


- Anaerobic Digester

- Lung Simulator:
  Fully functional neonatal lung simulator







- Plastic Shredder and Extruder System

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