Mechanical Systems in Agriculture Course Description

Mechanical Systems in Agriculture is a specialization-level course designed to provide rigorous applications in the agricultural engineering field. Throughout the course, students apply technical and engineering skills while becoming competent in the processes used to operate, repair, engineer, and design agricultural structures, engines, and equipment. Students practice technical skills including reading prints, troubleshooting machines, documenting an engine teardown and assembly, reading schematics, researching machine replacement parts, and calculating production efficiencies. The engineering portion of the course includes prototype development, computer aided design(CAD), 3D printing, documentation of machine processes, machine automation and programming, testing designs for structural integrity, and calculating machine speed and power.

Students will maintain an Engineering Notebook throughout the course documenting their experiences in the shop and laboratory. Research and engineering design will be highlighted as students develop and conduct industry appropriate engineering projects. The course concludes with a final engineering project, which students choose based upon course experiences and interest.

Mechanical Systems in Agriculture includes the following units of study.
- Agricultural Engineering
- Structures
- Engines
- Machines
- Engineering Solutions