Projects List:

Semester 1: (2013)

Design, sand casting, and LabVIEW performance testing of a heat sink

Optimization of a Campus Dining Hall (Selected out of 8 groups to present to 250 people)

Arduino Program to regulate water level with a pump

Arduino Program to regulate temperature with a fan

Arduino Program with use of an accelerometer to graph earthquake readings

Semester 2: (2014)

Use of MATLAB and Excel for stress-optimization of a front-end loader

Summer 1: (2014)

C++ Program to play a dungeon crawl style game

Semester 3: (2014)

Use of finite element method in MATLAB to analyze stresses in a conical shaped beam

MATLAB program to solve stress, strain, internal moment and shear for beam under generalized loading

Use of Autodesk Mechanical to build a bridge with load applied to stress and strain specifications

Semester 4: (2015)

Arduino program with use of 2 lasers and 2 servo motors to operate device to count ping-pong balls

Arduino program to control motors, lasers and a solenoid to accurately sort blocks of different shape

LabVIEW program used in tandem with a compressor to measure force absorbed while crushing a soda can

Use of LabVIEW programs to calibrate Wheatstone Bridge and measure strain in a beam under load

Summer 2: (2015)

Design, Assembly, and Testing of a wind tunnel for use of determining flow characteristics over equipment

Use of Thermal Chamber to test thermal capacity of advanced 4G LTE equipment

Acoustic testing of different speed cooling fans to determine which fans meet noise specifications

Fall 3: (2015)

Research and analysis of X-51 WaveRider, a scramjet powered rocket for prolonged hypersonic flight

Optimized pitch controller design for Boeing 737, including a SIMULINK model of expected performance

Heat exchanger design to heat pharmaceutical to critical temperature; MATLAB script to minimize material

Financial comparison of Ford and GM through analysis of income statement, balance sheet and cash flows

Spring 3: (2016)

Financial analysis of UTC

IPD