Additive Manufacturing Contest:

Open to **pairs of students** with access to 3D design software.

OBJECTIVES:

1. To demonstrate the application of additive manufacturing.
2. To apply engineering principles.
3. To promote creative thinking and demonstrate problem solving skills.
4. To have students display skills in using 3D design software.
5. To exhibit principles of dimensioning on all prints.
6. To document design process from conception to conclusion.

CLOTHING REQUIREMENT:

Follow industrial professional dress standards. This is a hands-on competition. Consider a professional appearance, with the ability to work safely in a testing environment. Safety glasses are required.

SCOPE OF CONTEST:

This skill-performance contest will require each **two-person team** to:

1. Develop and design a solution to the given problem.
2. Submit a design to be 3D printed.
3. Present solution and expectations for performance.
4. Setup and destructively test part in provided test fixture.

Day 1: Each team will design and submit a 3D model of their created solution for the design to be 3D printed overnight that will be used for the following day's final competition. On the first day of the contest, a problem will be presented for each two-person team to create their solution within the three hour time period.

Day 2: Each team will share working drawings (correct orthographic views), an isometric drawing, and an engineering notebook. They must also give a short presentation about their design, including a prediction of performance. The 3D printed design will be tested for compliance within the scope of the problem statement parameters.

Full definition of the problem will be given on the first day of the competition. The contest will include limits of 3D printing parameters to follow, including material volume and build time.

Each team must bring a computer with 3D design software to the competition. Ensure the computer works offline, or another guest network if needed.

The testing site will provide the measuring tools needed and 3D printers.