

## Team 25: SAE Aero Design Standard Class

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### Objective

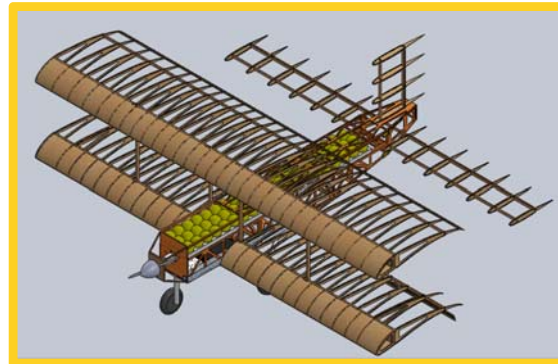
To design an aircraft that can maximize competition scoring by carrying as much payload as possible while abiding by SAE and FAA regulations.

### Scoring Equation:

$$Final \ Flight \ Score = \frac{1}{40N} \left[ \sum_1^N FS \right] - \sum T$$

$$FS = \$100P + \$50C - \$100E$$

Target Score: 180



- Length: 76 inches
- Span: 96 inches
- Height: 32.95 inches
- Airfoil: Selig 1223RTL
- Wing Chord: 24 inches
- Wing Aspect Ratio: 4
- Estimated Empty Weight: 17 pounds
- Estimated Payload Weight: 36 pounds

### Quantitative Constraints

Maximum plane weight of 55 pounds

200 ft. maximum takeoff distance

400 ft. runway landing zone

1000 W power limit

### Qualitative Constraints

Plane must not go upside down during the competition

Plane must use a fixed wing design

Plane must house passengers and cargo in enclosed bays

Passengers must not shift during the flight

Propeller must spin at motor RPM

Budget (\$8000)

