THE BRITISH MODEL FLYING ASSOCIATION

FLIGHT CHALLENGE

2018

OVERVIEW

The British Model Flying Association has organised and run flight based educational competitions for a significant number of years previously branded as the University Challenge and the Payload Challenge.

The competition has evolved over time and has become an established element of the curriculum for many schools and universities and has also attracted entries from youth groups, cadets and home education groups.

2018 represents the most significant evolution of the competition to date with two new challenges aimed at leading teams in through an easily achievable starting point and also providing a structured progression through the competition and categories.

The challenges are aimed at a fun, educational activity with increasing academic rigour as teams move on to the more advanced categories.

The five Challenges are summarised below but you will need to refer to the relevant rules brochure for each class for full details, rules and entry forms.

Challenge 1 Egg Lift

The focus is on building an airframe utilising cost effective and readily available materials based on a proven and published design as an introduction to model aircraft as an exciting learning tool.

Teams of five are to produce an airframe from cost effective and easily accessible materials in advance of the competition, aircraft will then be required to compete in a flying competition to test the design, construction, teamwork and piloting skills.

For this year aircraft are required to transport a single chicken’s egg around the course.

Recommended age group: Secondary School.

Challenge 2 Kit Lift

This Challenge is based on a traditionally configured airframe produced from a laser cut set of wooden parts.

The aim is for teams to learn about the basics of airframe construction and radio control systems as a forerunner to designing their own aircraft in Challenges 3, 4 and 5.

Challenge 2 provides a structured introduction to the more advanced aspects of aircraft design and construction techniques using a previously proven design.

Teams are required to modify elements of the standard design during construction in order to accommodate a prescribed mission task.

Challenge 2 uses the same propulsion unit as Challenges 3, 4 and 5.

Challenge 3 Distance (formerly Challenge 1)

Teams of 5 are required to design and construct an aircraft using a standard propulsion unit to transport a payload around a course as many times as possible during the allocated time slot.

The payload for 2018 is a solid balsawood block measuring 150x150x300.

Teams are required to produce a set of 3 view drawings for their design and one A4 sheet summarising the design "highlights", teams are also required to conduct a 5 minute presentation to a panel of engineering judges.

Recommended age group: Secondary school/ first year university.

Challenge 4 Quantity (formerly challenge 2)

Teams of 5 are required to design and construct an aircraft using a standard propulsion unit to transport as many multiple payload items around a course during the allocated time slot.

The payload for 2018 is 150mm diameter polystyrene spheres.

Teams are required to produce a set of 3 view drawings and a formal report on their design, teams are also required to conduct a 5 minute presentation to a panel of engineering judges.

Recommended age group: Secondary school/ first year university.

Challenge 5 Weight (formerly challenge 3)

Challenge 5 is the most academically rigorous of the challenges and requires teams to focus on a number of key aspects of aircraft design and construction.
Teams of 5 are required to design and construct an aircraft using a standard propulsion unit to transport a prescribed weight of payload around the course during the allocated time slot.

The payload for 2018 is water (up to a maximum value of 4.5kg) which must be transported internally within the airframe.

Teams are required to produce a set of 3 view drawings and a formal report on their design, teams are also required to conduct a 5 minute presentation to a panel of engineering judges.

Recommended age group: University.

For further information

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To view and download Rules Brochures for the 2018 Flight Challenge visit

http://payloadchallenge.bmfa.org/