

UKROC 2023

****Please note that this is a suggested week by week schedule of activities, many teams work at their own pace, especially those that register later in 2022 or early 2023. This is simply to guide you if required.****

SEPTEMBER 2022

- Teams to register

OCTOBER 2022

- Read the rules/mission on UKROC website and start a project diary/log book.
- Assign team responsibilities (such as project manager, airframe, propulsion & ignition, launch system, fundraising etc).
- Watch the instructional video “How to Build and Fly a Model Rocket” on YouTube [here](#). Also review the helpful documents [page](#) and [blog](#) on the UKROC website.
- Review the recommended rocket parts and our preferred vendors (starting with the “official suppliers” listed in the Handbook). Useful suppliers can be found [here](#).
- Order one of the flight-simulation and rocket-design computer programs (RockSim or SpaceCAD), at the official team discount price directly from the vendor after you have completed your 2023 registration, details [here](#). You can also try using the free software: OpenRocket.
- Purchase an inexpensive, one-stage rocket kit ie Estes Alpha, to familiarise your team with rocket building & flying.
- Locate a place to fly rockets at rocket clubs or local facilities. UKROC affiliated clubs can be found [here](#).
- Develop a plan to raise money to purchase rocket supplies for two rockets and motors for at least ten test and qualification flights. Your fundraising may also cover your travel to the Finals!
- Locate a mentor if you would like to, contact [UKROC](#) and we can help with this.

NOVEMBER/ DECEMBER 2022

- Look at Team America Rocket Competition [website](#) for lots of useful information.

- Load the rocket design and flight simulation computer program that you purchased.
- Join [BMFA](#) essential for insurance and mandatory for UKROC if first time wait till year end if you have previously been in BMFA your membership is still current.
- Fly a basic one-stage model rocket. ie an Estes Alpha.
- Order your Estes, Perfectflite APRA, Pnut, or Firefly altimeter (Note APRA is no longer in production but may still be used).
- Using the computer program and the knowledge gained from reading and from building basic rockets, develop a first rocket design for your entry. Develop a parts list and start to buy/make the bits.
- Using the computer program, conduct flight simulations of your design with various rocket motors, on the approved motor list, to determine the best motor(s) to use.
- Locate sources for the materials needed to build your design (starting with the official vendors in the Official Handbook) and purchase required parts and rocket motors.
- Design and build (or purchase) the electrical launch system and the launch pad (preferably with a one-inch rail), if you do not have a local rocket club's system available for your use.

WEEK OF 4 JANUARY 2023

- Begin construction of your initial design for your entry.

WEEK OF 11 JANUARY 2023

- Develop a pre-flight checklist for your flight and assign responsibility for each of the duties to a member of the flight team.
- Test your launch system by test-firing igniters without installing them in rocket motors.

WEEK OF 18 JANUARY 2023

- Weigh your completed rocket and re-run computer flight simulations with actual rocket weights.

BY 1 FEBRUARY YOU SHOULD (BUT ARE NOT REQUIRED TO):

- Test-fly your initial design (without altimeter), making sure that you leave time to redesign, rebuild, and re-fly by April 5 if this initial flight/design is not successful.
- If your first flight is fully successful, test-fly again with stopwatch timing and the altimeter installed. Repeat test flights until you hit the design targets.
- If your first flight is not successful, do post-flight failure analysis and re-design.



FEBRUARY - APRIL 2023

- Continue to test fly and refine your design ready for regional events.

