AURC

AUSTRALIAN UNIVERSITIES ROCKET COMPETITION

2024 AURC Safety Reviewer Information Pack

27th April 2024

AYAA

What is the AURC?

The Australian Universities Rocket Competition (AURC) is a multidisciplinary team engineering competition for tertiary STEM students, organised by the Australian Youth Aerospace Association (AYAA). In the competition universities compete to design, manufacture, and launch a high power rocket to a target altitude in the span of a year. In 2019 the first AURC took place, where teams launched rockets to 10,000 and 30,000 ft altitude in regional Queensland. In 2020 and 2021, the competition took place in an online only format, with no launch event.

In 2024 the AURC returns for an in-person launch event in Australia. Students are offered a unique challenge to design, build and launch a single-stage, high powered rocket using commercial-off-the-shelf solid fuel motors to 5,000ft, 10,000ft or 30,000ft. Teams are scored in their design, quality of their manufactured rocket, launch trajectory, payload, and the safe and accurate recovery amongst other criteria. Teams will also have the opportunity to design a 2kg CubeSat payload for the competition's payload challenge.

Registration for the competition opened in December 2023 and a timeline of the key dates is available on our website: https://aurc.ayaa.com.au/competitor-info/**.** Applications for rocket safety reviewers follows on from recruitments for judging roles, which are separate role that will be responsible for grading written deliverables evaluating the technical engineering competency of competing teams' designs.

Role Description

We are currently recruiting for safety reviewers for the 2024 AURC. This is an exciting volunteer opportunity for experienced rocket fliers to guide tertiary student teams through the safe development and launching of their rockets.

As part of the competition assessment criteria, teams are required to submit progress updates and technical reports which detail their rocket design, manufacturing process, risk assessment and other pertinent information. As a safety reviewer for the AURC you will draw on your experience with high-powered rocketry to assess competitor designs, provide feedback where needed to ensure that the rocket designs are safe. Safety reviewers will also be responsible for inspecting and verifying that rockets meet safety requirements and AURC Rocket Specifications prior to launch.

Safety reviewer applications can be made here. Applications will remain open throughout the competition, but an initial selections of safety reviewers will begin on February 12th 2024. Please do not hesitate to direct any questions about the roles to director@aurc.ayaa.com.au.

- Safety reviewers will read and provide feedback on progress updates and technical reports submitted by the competing teams. This feedback will be on an as needed basis, where safety reviewers can query elements of the design and provides recommendations for improvement if deemed necessary. Expected time commitment are as follows:
  - Progress reports: 1-2 hours in May.
  - Technical report: 2 hours minimum (~100 pages) in August.
  - Intermittent ongoing work where needed
  - Launch festival attendance: 1-8 hours over 19th-22nd September in Williams, WA (optional).
    - This will take place as shifts during the launch days, and will not be an all day commitment.

- Safety reviewers will provide the AURC subcommittee with feedback on any emerging issues that may require updates to the rules and regulations of the competition to rectify.
- Safety reviewers are invited attend the competition launch festival for in-person inspection of the rockets and face-to-face discussions with teams to evaluate their understanding of the safety of their rocket systems in September 2024 (1-3 days).
    - Not being able to attend the competition launch festival does not preclude selection as a safety reviewer, however expert in-person safety reviews and inspections prior to lauch are an integral part of allowing teams to launch at the festival. As such, we will require at least a limited number of safety reviewers to be able to attend the competition festival, and being able to do so is desirable.
- Time commitment will vary depending on how many safety reviewers are appointed and the number of safety reviewers able to attend the launch festival. As this is a volunteer role, we will aim to accommodate your availability.
- The safety review role is a volunteer role and unpaid. AYAA and AURC are not able to provide any financial assistance for travel, accommodation, and other expenses incurred.
- Safety reviewer responsibilities will conclude at the end of the competition in September 2024.

Eligibility Criteria

As the AURC competition is involves high powered rocketry, safety reviewers are expected to be experienced rocket fliers covering all aspects of rocket design. Prospective safety reviewers will be required to include a rocket resume as part of their application and briefly detail their experience and suitability of the role.

- Safety reviewers are required to hold a current Level 3 Tripoli certification as recognised by TRA, CAR and NAR.
- To avoid conflicts of interest, safety reviewers should not be employed by a university represented by a competing AURC team.
- (Optional) Ability to attend the competition (19th-22nd September 2024).

THANK YOU

The AYAA would like to express our thanks to you for considering joining on our safety reviewers' team. With your help, we can keep our competition safe and mentor up-and-coming rocket fliers about practical aspects of safe engineering. Please do not hesitate to direct any questions about the AURC to our director at director@aurc.ayaa.com.au or reach out to our team at contact@ayaa.com.au. We look forward to receiving your application.