AURC

AUSTRALIAN UNIVERSITIES ROCKET COMPETITION

2024 AURC Judges Information Pack

13th November 2023

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 opens in December 2023 and a timeline of the key dates is available on our website: https://aurc.ayaa.com.au/competitor-info/**.** Please note that applications for rocket safety reviewers will open on 18th December 2023, which is separate to judging roles. These volunteers are expected to have a Level 3 high power rocketry certification and will take on the role of verifying that rocket designs meet the expected minimum safety standards.

Role Description

We are currently recruiting for judges of the 2024 AURC. This is an exciting volunteer opportunity for experienced engineers to guide tertiary students through the engineering design cycle as they take on a multi-disciplinary project.

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. Reports will span the fields of Aerospace, Mechanical, Electrical and Software engineering. As a judge for the AURC you will draw on your professional engineering expertise to mark and provide feedback on competitor submissions.

Judge applications can be made here https://aurc.ayaa.com.au/judge-applications/ and will close on January 1st 2024. Please do not hesitate to direct any questions about the roles to director@aurc.ayaa.com.au.

- Judges will read and evaluate progress updates and technical reports submitted by competing teams. This will include allocating a mark in accordance with a marking rubric with associated feedback. Expected time commitment are as follows:
  - Progress reports: 3-6 hours in January and May
  - Technical report: 4 hours minimum (~100 pages) in August
- Judges will provide the AURC subcommittee with feedback on marking guidelines and competition rules.
- (Optional) Judges may attend the competition launch festival for face-to-face judging of teams and rockets (criteria TBC) in September 2024. (1-3 days)
- Time commitment will vary depending on how many judges are appointed and the range of competencies available, however we can accommodate to your own availability.

- Judging is a volunteer role and unpaid. AYAA and AURC are not able to provide any financial assistance for travel, accommodation, and other expenses incurred.
- Judging responsibilities will conclude at the end of the competition in September 2024

Eligibility Criteria

As the AURC competition is for tertiary engineering students, judges are expected to be practising professionals with experience in a STEM related field. Prospective judges will be required to include a resume in their application and briefly indicate their suitability of the role.

- Judges must have a minimum of two (2) years experience in a professional engineering role or similar technical STEM field.
- Judges must have a minimum of a bachelor's degree majoring in engineering or science.
- To avoid conflicts of interest, judges should not be employed by a university represented by a competing AURC team.
- Experience in *one or more* of the following areas is ideal:
  - High powered model rocketry
  - Mechanical engineering design
  - Embedded systems design
  - Systems engineering
  - Computer programming
  - Manufacturing
- (Optional) Ability to attend the competition on a weekend (Sept. 2024).

THANK YOU

The AYAA would like to express our thanks to you for considering joining on our judges panel. With your help, we can mentor up-and-coming STEM professionals into fulfilling and meaningful careers. 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.