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RULES FOR THE
2019 HUMAN POWERED VEHICLE
CHALLENGE ASIA PACIFIC
QUALIFICATION EVENT



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I. Introduction

A) Objective

Teams have to demonstrate both their understanding of the rules and their capacity to develop a competitive entry prior to the main HPVC event.

B) Scope of Qualification Rules

These rules describe a qualification event to select teams for the HPVC Asia Pacific. Historically, the number of applicants is far too high to have a successful HPVC. This qualification event ensures that the most prepared and competitive teams advance to the main competition. These are NOT the complete rules for the competition overall. The overall rules for the competition are posted on the HPVC website.

C) Superiority of Rules

These rules have been established by the ASME's Human Powered Vehicle Challenge (HPVC) Committee. Should any conflict arise between these rules and those of the ASME, the ASME rules shall dominate. Should any conflict arise between these rules and other information regarding the ASME HPVC, whether generated by the ASME or any other organization, these rules shall dominate. Should any conflict arise between these qualification rules and the overall competition rules, the overall competition rules shall dominate.

D) Additional Rules and Information

All applicants are encouraged to read the entire competition rules before submitting qualification proposals. The overall competition rules can be found on the official HPVC website. Teams wishing to participate should consult the HPVC website, HPVC Facebook Community, and HPVC Question Forum.

Official HPVC Website: <https://community.asme.org/hpvc/default.aspx>

Official Rules and Forms: <https://community.asme.org/hpvc/m/default.aspx>

HPVC Facebook Community: <http://www.facebook.com/ASMEHPVC>

HPVC Question Forum: <https://groups.google.com/forum/#!forum/asme-hpvc>

II. Qualification

A) *Description*

Teams must submit a 4 page maximum written proposal which communicates the team's capacity in the following areas. The Qualification Proposal Cover Page must be attached to the front of the proposal. The cover page is available from the official rules and forms website linked in the introduction. Figures that support the proposal may be placed in the appendices and referenced in the text. The cover page and appendices will not be counted in the 4 page limit but all supporting text will count against the page limit.

1) *Design plan*

Describe your team's preliminary vehicle design features. Use figures to clearly demonstrate your plans.

2) *Testing and analysis plan*

Describe the testing and analysis that your team plans to do. What numerical analysis and physical testing do you plan to do and how?

3) *Design and fabrication facilities*

Discuss your team's capacity to design and fabricate a vehicle appropriate for competition. Availability of instruction, advising, and facilities for the basic fabrication processes should be highlighted. In the event that such facilities are sub-standard, the team should discuss alternative solutions or outside manufacturing resources which may be utilized.

4) *Institutional and financial support*

It is important for teams to have the support of their home institution at an appropriate level (i.e. President, Dean, Department Head, Instructor). Teams must provide evidence of institutional support through a signed letter stating the levels of support clearly. Also, discuss sources and levels of financial support (e.g. institutional, personal, local business) and how it will allow your team to complete its objectives.

5) *Timeline and planning*

Proper planning of the various stages of the design, fabrication, and testing process are critical for a team's success. Communicate this plan so that it is clear that your team will have a fully-built and thoroughly-tested entry prior to the competition. The use of a Gantt chart or project schedule are highly recommended.

6) *Prior experience with the HPVC*

Prior participation is not a requirement for qualification. However, teams may wish to discuss how lessons learned from their previous experience with HPVC will enable them to be more successful in the present competition. This is the last page that counts towards page limit.

B) *Submission Deadline*

The submission deadline will be posted on the event website. **Qualification proposals must be submitted before the deadline and late submissions will not be accepted.** Failure to submit a proposal before the deadline will result in not being allowed to register for the competition.

C) *Notification of Qualification Results*

The judges will review the qualification submissions based on the criteria listed above, and will extend a formal invitation to successful entries by a date to be posted on the event website.

D) *Non-participation*

All teams must participate in the Qualification event in order to compete in Asia Pacific HPVC.

E) *Number of submission per school*

There will be no restriction to the number of Qualification proposals submitted per school. There will be a restriction of the top 3 scoring teams per school during qualification allowed to participate in the competition. An exemption to the team limit can be made at the discretion of the Head Judge.

F) *Unique Proposals*

Each team must submit a unique proposal. Multiple teams per university are allowed to submit proposals but the content of each one should be unique. Content that is duplicated from another proposal will not be counted for points for both teams without exception.

G) *Scoring*

Scoring of proposals will be done using the rubric in Table 1. A score greater than 0 must be met in order to qualify for participation in the competition. All proposals will be reviewed by multiple judges and their scores will be averaged to calculate the final score.

Qualification scores are not included in the overall competition scoring. These scores are used only to qualify for the competition.

Table 1: Qualification proposal scoring rubric

Demonstration of meeting the criteria	Points per criteria
Exceptional	4
Strong	3
Competent	2
Unsatisfactorily	1
Did not address the criteria	0

Table 2: Qualification proposal scoring breakdown

Criteria	Points Possible
Design plan	4
Testing plan	4
Design and fabrication facilities	4
Institutional and financial support	4
Timeline and planning	4
Prior experience with HPVC	0
Total Points Possible:	20