



Significant Changes to the Rules and Regulations for the 2012 ASCE National Concrete Canoe Competition™

Each year the rules and regulations are modified and updated in an effort to improve the overall competition and to assure that competitors design and build new canoes. Changes have been made to this year's edition of the rules based on responses to questions, issues that may have arisen at conference and national competitions, and feedback provided by students and judges. Some of these changes are significant while others are minor edits in language.

The intent of the significant changes is to challenge the student's skills, engineering judgment and creativity. The minor edits are primarily for clarification purposes.

The following is a list of the MAJOR changes to the rules and regulations applicable to the 2012 competition (as compared to the 2011 rules and regulations). Please note that not all of the changes are listed here and that it is the responsibility of all teams to carefully review the rules and regulations.

Section 1 – General Rules and Eligibility Requirements

- In an effort to avoid possible confusion and misinterpretation, all Requests for Information (RFIs) will be made public. There will be no private RFIs.

Section 2 – Canoe

- The canoe has a maximum length restricted to 22 feet. The maximum length is defined as the end-to-end (bow to stern), measurement of the canoe taking into account the outermost dimensions of the hull at any point on the canoe.
- The canoe has a maximum width of the canoe restricted to 36 inches. The measurement of the width is defined as the outermost dimension of the hull skin at any given location of the canoe, including the use of thickened gunwales.
- Teams may use the hull design that had been developed by the CNCCC and used in the 2009-2011 ASCE National Concrete Canoe Competitions. Teams may modify the previously issued standard hull design at their discretion.
- The flotation test has been redefined. The canoe shall float horizontally near the water's surface within two (2) minutes of being completely filled with water. There is no requirement for any portion of the canoe to break the water's surface.

Section 3 – Concrete

- All concrete mixtures shall contain hydraulic cement with a minimum amount of portland cement (c) being 30% (by mass) of the total cementitious materials (cm) content in any given concrete mixture (e.g., c/cm ratios shall be 0.30 or greater for any given concrete mixture).
- The requirement of two (2) sustainable aggregate sources has been removed.
- The aggregate(s) selected shall constitute a minimum of 25% of the total VOLUME of any concrete mixture (based on yielded proportions). This volume percentage is to be calculated assuming that the aggregates are in the oven-dry condition.
- The maximum allowable unit weight of all concrete is 70 pcf, based on the yielded proportions of the concrete. There is no minimum value. Report the value obtained per ASTM C 138.
- Latex, dyes solids, and admixtures in powder form are to be accounted for in the determination of solids content. Disregard the contribution of solids from other admixtures such as air-entrainers, water reducers, shrinkage reducers and viscosity-modifiers.

Section 4 – Reinforcement

No significant changes to Section 4 have been made

Section 5 – Final Product

- Any commercially available stain(s) specifically formulated for concrete may be applied to the canoe.
- Post-manufacturer additives such as glitter or other particulate material are not permitted.
- The dilution of stains with any other medium (e.g., water, acetone, etc.) is not permitted. Stains which come in the form of powdered dyes that are to be reconstituted with water or other liquid medium are permitted and teams must follow the manufacturer's directions for their proportioning and mixing.

Section 6 – Design Paper

- The design paper shall contain the following sections – *Table of Contents, Executive Summary, Hull Design, Structural Analysis, Development and Testing, Project Management, Construction, and Sustainability.*
- Page limits have been implemented.

Section 7 – Engineer's Notebook

No significant changes to Section 7 have been made.

Section 8 – Oral Presentation

No significant changes to Section 8 have been made.

Section 9 – Final Product (Canoe and Cutaway Section)

No significant changes to Section 9 have been made in the way that Final Product is scored other than that the standardized hull design is not a requirement for all teams (no compliance checking for cross sections).

Section 10 – Product Display

- Final product display counts up to 20 points (out of 100) for the Final Product Scoring

Section 11

- The slalom portion of the 600-m endurance course has been removed.
- The 600-m race is a 2-person race
- The co-ed Sprint is now a 400-m race and will consist of two (2) laps of the sprint course.

Section 12

No significant changes to Section 12 have been made.

Section 13

No significant changes to Section 13 have been made.

The Rules and Regulations of the 2012 ASCE National Concrete Canoe Competition is a very comprehensive document as it serves multiple purposes – it provides the specifications that the students need to meet for the competition, it provides guidance to the conference and national judges on the various aspects that they need to evaluate and judge, and it serves as a guide to the host schools for determining the requirements for hosting the competition.

Every effort has been made to provide clear language in this edition of the rules and regulations. Students are advised to read the rules carefully and to make interpretations based on sound engineering judgment and experience. The CNCCC will provide clarifications as needed.

Questions regarding rule interpretations should be directed via e-mail to CNCCC@asce.org. Official responses will be sent from this email account. Only questions sent to CNCCC@asce.org will be answered.