



WEST POINT BRIDGE DESIGN CONTEST



Middle School Division

The West Point Bridge software was created by the United States Military Academy (USMA) and is intended to promote math, science, and technology education in U.S. middle schools and high schools. The USMA supports local internet-based competitions intended to provide students with a realistic introduction to engineering through an engaging, hands-on design experience.

The American Society of Civil Engineers (ASCE) West Coast Branch (WCB) is conducting a local competition with \$450* in prizes. The winner of the ASCE WCB competition will be eligible to compete in the ASCE Florida Section Competition with \$4,500* in prizes.

How to Participate:

1. Form a team, consisting of either one or two members.
2. Download and install the West Point Bridge Designer 2010 software.
<http://bridgecontest.usma.edu/download.htm>
3. Use the tutorial for help on using the software. <http://bridgecontest.usma.edu/tutorial.htm>
4. Use the West Point Bridge Designer 2010 to design a bridge. Save your design as a bridge design file.
5. Register for the contest by using the registration wizard on the bottom of the login page.
<http://bridgecontest.usma.edu/login.htm>
Please note you will see a section labeled Contest selection. Select "A local bridge design contest with Local Contest Code" and enter **FWCM** in the text box.
Don't forget your team name and password!
6. Log in to your Team Home Page and upload your bridge design file for judging. You will receive immediate feedback about your current standing in the contest. Please see the Rules for judging information. <http://bridgecontest.usma.edu/login.htm>
7. Use the West Point Bridge Designer 2010 to improve your design.
8. Log in and submit your improved design. You may submit as many designs as you like before June 4, 2010; however, only your team's best design will be included in the contest standings.

Become a fan for tips and other information on FACEBOOK under West Point Bridge Design Contest.



West Point Bridge Design Contest
bridgecontest.usma.edu

RULES

1. An automated process will be used to check the validity of each design submitted electronically to the contest website. An entry will be judged as valid if:

- (a) The file is a "bridge design file" created by WPBD 2010, the most recent edition of the West Point Bridge Designer;
- (b) The design has no more than 120 members and no more than 50 joints;
- (c) The design is not identical to any previously submitted design;
- (d) The design is structurally adequate; i.e., it passes the WPBD load test with no member failures; and
- (e) The design has no instances of one structural member drawn directly over the top of another.

The WPBDC website will automatically reject any design that is identical to any previously submitted design. In other words, the first team to achieve and submit a given design will obtain full, exclusive credit for it. Two designs are considered to be identical if (1) their joints are all in exactly the same positions; (2) their structural members are all in the same positions (without regard to member numbers); and (3) each member in one design uses exactly the same material, cross-section, and size as the corresponding member in the other design.

2. The submitted design must have been created entirely within the West Point Bridge Designer 2010. Any attempt to manually modify the bridge design file will result in rejection of the design and may result in disqualification of the team.

3. If a design is rejected, the submitting team will usually be notified automatically by the website. If any subsequently discovered condition causes rejection of a design or disqualification of a team, the Contest Committee will attempt to notify the affected team(s) by e-mail. However, even if a team never receives such notification, the Contest Committee's decision to reject the design or disqualify the team will stand.

4. Once an entry is determined to be valid, its standing in the contest is determined by its cost. A lower cost results in a higher standing. The lowest cost wins.

5. The cost of a design is as calculated by WPBD 2010 and the WPBDC website. These two calculations should be identical; however, in the unlikely event that the two calculations are different, the one performed by the WPBDC website will be used to determine the contest standing.

6. The load test results calculated by WPBD 2010 and the WPBDC website should be identical; however, in the unlikely event that the two calculations are different, the one performed by the WPBDC website will be used to determine whether or not the design passes the load test.

7. If two teams submit designs that are not identical but that have exactly the same cost, the tie will be broken based upon the time of submission. The design submitted earlier will have the higher standing.