

## The NEDC Experience: Design that Matters

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The **JETS/AbilityOne National Engineering Design Challenge (NEDC)** is an annual engineering design competition challenging students in grades 9-12 to design and build an assistive technology device to help a person with disabilities succeed in his or her workplace.

As a cross-curricular and collaborative competition, students work together using their creativity, problem solving, math, science, research, writing, presentation, drafting and design skills to develop a working prototype.

The NEDC is also a service-learning program that educates young people about careers in engineering, increases disability awareness, promotes community involvement and inspires a spirit of engagement and a willingness to help others.

The NEDC is coordinated nationally as a program of JETS and sponsored by the AbilityOne Program.

### Competition Facts

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The 4<sup>th</sup> annual competition will take place between September 2009 and February 2010. Teams from more than 35 states and US territories will participate to advance through three rounds of competition. Students identify the problem they want to solve, work together to develop a solution and present their device to an expert panel of judges.

**Round I:** Research/Design/Construction/Reporting

Part I: Internet Scavenger Hunt; Part II: Final Report, Construction & Testing

**Total Possible Points: 100**

Teams select a disability scenario to begin their research. Goals of the Scavenger Hunt phase include: Disability awareness, disability and employment challenges, assistive technology, and engineering career exploration and awareness. Point scale for Part I is 0-25 points. The Final Report and initial device construction's goals include: scenario selection, disability research, solution feasibility, initial design drawings, marketability of design, construction of prototype and testing of prototype. Point scale for Part II is 0-75 points.

**Round II:** Semi Finals, Online Virtual Design Showcase

January 13, 2010

**Total Possible Points: 100**

The top scoring Round I teams will advance to Round II. Semi-finalist teams create a six minute video presentation on the research, design and construction of their device. Semi-finals presentation goals include: feasibility, marketability, construction and testing of the device.

**Round III:** National Finals, Washington, DC

February 24-25, 2010

**Total Possible Points: 100**

The top five scoring Round II teams will be invited to present a twenty-minute presentation at the National Finals event before a panel of judges and live audience. Finalist teams will receive scores based on design, device function, research, safety, construction, marketability and presentation.

- Nearly 2,500 students from 250 teams will participate in Round I.
- Approximately 25 teams will advance to Round II and post their video presentations online at [www.jets.org/nedc/semifinals](http://www.jets.org/nedc/semifinals) for further judging.
- The top five National Finalist teams are announced from their online showcase and receive a trip to the JETS/AbilityOne National Finals at the Westin Arlington Gateway in Arlington, VA.
- Each National Finalist team Coach becomes an automatic recipient of the MIT EXCITE award and is recognized as a Lemelson-MIT InvenTeams finalist.
- The Best Overall team is awarded \$3,000 and a trip to the NISH annual conference in Anaheim, CA May 24 – 26, 2010.
- Two additional National Finalist teams each receive \$1,500 cash for their school.