



#### Technology Student Association

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## **Students Collaborate to Solve Real-World Medical and Health Care Challenges Through TSA's 2012 TEAMS Competition**

Reston, VA. High school students are preparing to tackle some of the biggest medical problems facing society! The Technology Student Association (TSA) asks students to use their engineering skills to confront challenges facing the medical and health care industries as it launches the annual TEAMS competition.

With the 2012 theme, "Engineering Healthier Lives," nearly 10,000 ninth – 12<sup>th</sup> grade TEAMS participants will gather for one-day competitions over a four-week period from February 13 through March 12 at 130 competition sites in 43 states and Washington DC, including 64 colleges and universities (see a complete list at <http://teams.tsaweb.org>). To prepare for the competition, each registered school and group receives preparatory materials including a coach guide, competition scenarios, supplemental hands-on activities, lesson plans and tips for group decision-making and problem-solving strategies. Working in a written competition format, teams of four to eight students face off during two ninety-minute parts:

**Part 1:** Eighty multiple choice questions, requiring team members to apply math and science knowledge to novel situations.

**Part 2:** Eight tasks to be answered in a short essay format, expanding students' ideas as they explain their ideas for engineering solutions.

Medicine is increasingly turning to engineers for solutions to some of its challenges. Drug design, medical device design, and clinical research are all areas where engineering skills are necessary to keep pace with the increasing knowledge base provided by primary research.

In solving "real-world" medical challenges, students participating in the 2012 TEAMS Competition will be asked to consider:

- How drugs can be designed to be effective in treating disease, have minimal side effects, and improve patient quality of life?
- How prostheses and medical devices should be designed to be long lasting and provide full functionality to patients?
- How clinical trials can be designed and managed to obtain maximum information about the effects of the treatment in a fair and ethical way?

### **About TSA**

TSA is a national organization devoted exclusively to the needs of students interested in science, technology, engineering and mathematics (STEM). Open to young people enrolled in or who have completed technology education courses, TSA's membership includes over 150,000 middle and high school students in 2,000 schools spanning 48 states. TSA partners with universities and other organizations to promote a variety of STEM competitions and opportunities for students and teachers. TSA is supported by educators, parents and business leaders who believe in the need for a technologically literate society. From engineers to business managers, our alumni credit TSA with a positive influence in their lives. Visit [www.tsaweb.org](http://www.tsaweb.org) for more information.

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