

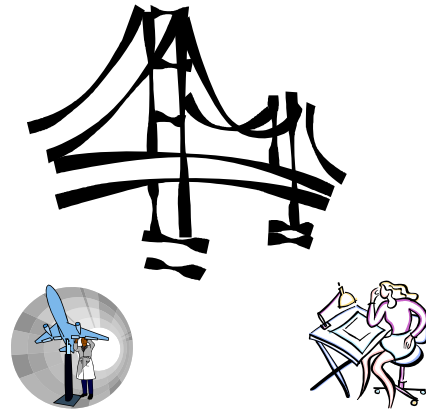
## Vision

The ability of the United States of America to maintain a technological advantage over its competitors around the world has always been based on highly qualified. Within the next fifteen years the work force that maintains this industry will lose approximately 150,000 highly trained professionals. A reversal of educational needs have mandated a change in preparation for jobs that graduating high school students can obtain. In 1970 20% of jobs were professional, 15% were highly technical, and 65% were unskilled laborers. In 2005, 20% are still professional, but 15% are now unskilled laborers while 65% are technical positions. The Engineering Academy for Student Excellence (EASE) will contribute to the effort to prepare students for careers in

## Mission Statement

The mission of the Engineering Academy for Student Excellence at American High School is to prepare students to enter into one of the sixteen fields of engineering. Problem solving and technological proficiency will serve as the foundation for developing and presenting creative innovations. Students will receive comprehensive instruction to prepare them to take advantage of any higher education opportunities that present themselves. The projects, competitions, speakers, demonstrations, and course material will provide the skills for collegiate and career entry-level positions.

## Engineering Academy for Student Excellence



“Building bridges to the future.”



- **Principles of Engineering** -

A course that helps students understand the fields of engineering. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change.

- **Introduction to**

**Engineering Design** - A course that teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed, and tested.

- **Civil and Structural Engineering** -

This course provides an overview of the fields of Civil Engineering and Architecture, while emphasizing the interrelationship and dependence of both fields on each other. Students use state of the art software to solve real world problems and communicate solutions to hands-on projects and

competitions. This course covers topics such as:

- Robotics
- Bridge Building
- Rocketry
- Architecture

- **Engineering Design and Grafting** -

An engineering research course in which students work in teams to research, design and construct a solution to engineering problems. Students apply principles developed in the four preceding courses and are guided by a mentor.

- **Aerospace Engineering** -

The Aerospace Engineering curriculum will be a systemic curriculum package that will introduce students to the world of aeronautics, flight, and engineering.

- **Biomedical Engineering** -

Biomedical Engineering will be one of the specialty courses in the engineering curriculum, which applies secondary level knowledge and skills in biology, physics, technology, and mathematics.



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