

**THE INFINITY PROJECT:  
BUILDING A HIGH SCHOOL CURRICULUM WHICH EMPHASIZES THE  
ENGINEERING, MATH, AND SCIENCE PRINCIPLES OF MODERN  
TECHNOLOGY**

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*Abstract - A bold new plan has been initiated to bring state-of-the-art science-based technology and engineering education to high schools. This effort, called The INFINITY Project, aims to develop a novel and interactive curriculum emphasizing the engineering fundamentals and the fun of the modern high-tech age.*

*This course isn't about "surfing the web" — rather, it teaches students about the science and engineering which enable the web. This course doesn't focus on how to use email to reach friends and family — rather, it teaches the physics and modern engineering which have given rise to cell phones and high speed digital networks. This course does not focus on how to use computers to play video games or DVD players to watch high resolution digital videos — rather, it focuses on the basic mathematics, and algorithms which enable these devices to entertain us and enrich our lives.*

#### GOALS OF THE COURSE

This new course will cover the engineering principles, along with the fundamental math and science concepts, which are enabling the Information Age. It focuses on three of the most important areas of modern technology and engineering: (1) it will explore and analyze the different processes of digitizing, compressing, storing, transporting, and displaying information or data from various sources such as music, images, movies, and text; (2) it will introduce the basic physical building blocks and components of modern multimedia and information systems; and (3) it will develop the necessary hands-on skills for implementing important technologies on computer hardware through easy-to-use advanced software design tools. Students who successfully complete this course will have a deeper understanding of engineering in the modern hi-tech era. They will also have

an appreciation for the role and relevance of math and science in technology, along with first hand experience with digital media, computers, and communication systems.

#### THE TEAM

This course is being designed by a team of university faculty from several different schools and industry experts working hand in hand with leading high school math and science educators.

#### THE LABS

The curriculum is intended to be hands-on and fun to learn. The laboratory assignments will illuminate many of the most important applications of advanced technology today. The experiments will be conducted primarily on Texas Instruments Digital Signal Processor starter kit (DSK)[1] running Hyperception's Visual Application Builder software[2]. This particular system is easy to use, inexpensive, representative of the state-of-the-art, and general enough to run a wide variety of experiments and applications.

#### FINAL REMARKS

This work-in-progress paper presents the early results of this project. More current information can be found at [www.infinity-project.org](http://www.infinity-project.org),

#### REFERENCES

- [1] [www.ti.com/sc/docs/tools/dsp/tmds3200031.html](http://www.ti.com/sc/docs/tools/dsp/tmds3200031.html)  
[2] [www.hyperception.com/VAB](http://www.hyperception.com/VAB)

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