

PROJECT LEAD THE WAY UPDATE - JUNE 2011



VESTAL PLTW PARTNERSHIP TEAM

Rich Bucci - District Administrator, Gary Digiacommo - Electrical Engineering Technology Department BCC, Joan Dinnel - VMS Teacher, Mike Evans - VHS Teacher, Gary Fancher - VMS Teacher, Jane Hashey - VHS Administrator, Clifford Kasson - VMS Administrator, Paul Kostek - Electrical Engineer Lockheed Martin, John Laibe - Quality Engineer Lockheed Martin, Matthew Martin - Implementation Manager at Innovation, Cindy Milkovich - E.I.T. and BOE member, Dave Osinski - VMS Teacher, James Pitarresi - Mechanical Engineer Department Binghamton University, Scott Smith - VMS Teacher, Alan Troidl - VHS Teacher, Darren Watson - VMS Teacher, John Witinski - Empire Plastics (owner)



BU/Vestal High School Engineering Collaboration

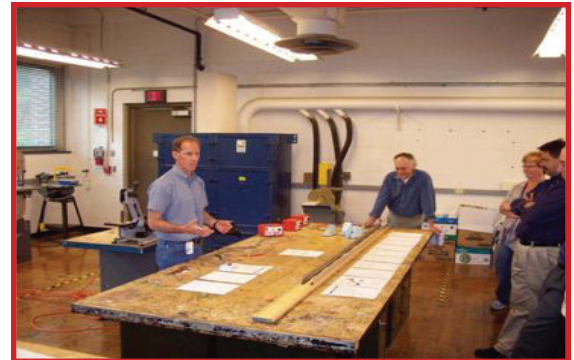


On May 13, twenty Vestal students boarded buses for Binghamton University to see where engineering can take them. All BU students completing the Computer, Electrical and Mechanical Engineers Senior Capstone Design Course displayed their products and presented their processes and designs. The projects were varied, motivational, and high quality. The topics ranged from satellite tracking systems to a manufacturing process for carbon fiber climber to a sculpture restoration process to a water powered vehicle.

Vestal students, the only high school students in attendance, were excited by the possibilities and returned to school that day with a deeper understanding of engineering futures. The BU professors commented to our PLTW teachers, Alan Troidl and Mike Evans, that our students not only behaved professionally, but also asked questions that were relevant and knowledgeable. Our students and teachers appreciated this invitation from the engineering professors at the university.

PLTW @ VMS

This chart displays our innovative approach to teaching the Project Lead the Way (PLTW) Gateway to Technology (GTT) middle school program. Every child in grade six through eight is enrolled in PLTW classes. The GTT program is divided into five units. A strong emphasis is placed on the fundamental elements of engineering design throughout the PLTW curriculums at the middle school and high school levels. Thus, our 6th grade students receive an introduction to design as well as the Automation & Robotics unit. This is followed by more



PLTW teacher, Gary Fancher, speaks about the principles behind the Magic of Electrons unit.

PLTW Unit	Teacher	Grade
Automation & Robotics Design & Modeling	Joan Dinnel Scott Smith	6th Grade
Design & Modeling Flight & Space Magic of Electrons Science of Technology	Gary Fancher	7th Grade
	Dave Osinski	
	Darren Watson	
Design & Modeling Flight & Space Magic of Electrons Science of Technology	Gary Fancher	8th Grade
	Dave Osinski	
	Darren Watson	

advanced (scaffolding) design content in grades seven and eight.

Our 7th and 8th grade teachers have become “experts” in various units. Thus, students rotate through all three technology teachers during 7th and 8th grade. This provides a guarantee that each student will receive the same instruction pertaining to each unit of study. The Flight & Space, Science of Technology and Magic of Electrons units are taught within a two year period to assure comprehension of the course topics. Moreover, the Design &

Modeling unit is taught over a three year period in an effort to build achievement and student understanding.

Middle school students obtain a solid introductory foundation in all aspects of the high school Pathway to Engineering (PTE) PLTW course work. As a result, many 9th graders choose to continue their education within the PLTW framework. Their exposure to high level pre-engineering instruction in the middle school paves their way through the college credit courses offered at the high school level.

VESTAL PLTW PARTNERSHIP TEAM



At the Vestal Middle School on May 20, the Vestal PLTW Partnership Team, comprised of community members, teachers and administrators held their first ever meeting. The team met in the Library and learned about the overarching themes and concepts associated with PLTW locally, nationally and worldwide. This was followed by visits to the four dedicated VMS PLTW classrooms where our teachers explained in great detail the process of teaching and learning associated with the Gateway to Engineering Middle School PLTW program. Our guests were amazed at the high level of pre-engineering that takes place in grades six through eight. They were equally excited about the quality of student work that was presented.



PLTW Teacher, Joan Dinnel (with John Laibe and Gary Digiaco) explains the functions associated with the Fischertechnik interface controller. This device is utilized in the Automation and Robotics unit.

During our tour and explanation of the program, conversations led to ideas of collaboration between local engineering companies, higher education institutions and Vestal Schools. This falls directly into the overall premise of creating the PLTW Partnership Team. The intent is to develop a relationship with local industry and higher education institutions in an effort to support our students and teachers through the middle school and high school PLTW programs. This includes the organization of guest speakers, grant writing and direct communication associated with engineering concepts and how they relate to the “real world.” Ultimately, the diverse engineering backgrounds of our team members will help support and guide our teachers and students.

Part of the process includes a review of the PLTW curriculums as well as scheduling classroom visits for members of the PLTW Partnership Team. Members are afforded the opportunity to visit classes and engage in content specific dialogue/conversations with teachers and students. This initiative will allow for constructive feedback in an effort to generate creative and innovative ideas to enhance the learning process in our classrooms and beyond.



James Pitarresi listens to a presentation on the design for manufacturability of the air racer vehicles. This topic is associated with the Design and Modeling unit as well as the Flight and Space unit.



Vestal's PLTW Partnership Team members learn about Mag-Lev. This topic is taught in the Magic of Electrons unit.