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## Area middle-schoolers explore paper making and printing in CEAS workshop

Making paper and learning the tricks of the trade in printing were topics of the most recent weekend workshop of the *Expanding Your Horizons @ WMU Engineering (EYH)* program.

**Larry Ahleman**, a master faculty specialist in the PCI department, coordinated the Saturday morning events. "We're trying to show them some of the future career options that are available to them with degrees in paper and printing majors," he said.



**Joel Wilke** (dark shirt in the foreground), a senior in paper engineering, shows seventh- and eighth-graders how the paper drying machine functions. The middle-schoolers then prepared their own hand sheets of paper.

WMU engineering students directed 13 seventh- and eighth-grade students from Kalamazoo's Hillside and Millwood Middle Schools and from Otsego Middle School, who participated in both hands-on activities.

**Joel Wilke**, a senior in paper engineering, led the students in the production of recycled, hand-made sheets of paper. From a slimy slurry, the students learned to remove the lumps so that the final product was smooth and dry.

**Joel Wilke** (dark shirt on left), and **Larry Ahleman** (plaid shirt on right), explain the process of making recycled paper from the contents of the slurry in the beaker.



Students also screen-printed bright yellow shirts. Imaging majors **Nettie Barnhart**, a senior who is also the past president of the Graphic Arts Society, and freshman **Megan Ward**, demonstrated and supervised the process. The young students were told that going into imaging means that they will never be without a job. "Everything has to be printed," Ward said. "Not just clothing, but everything from aircraft parts to cereal, and candy like M & M's."

Imaging majors **Nettie Barnhart** (in pink), a senior, and freshman **Megan Ward** (in background), demonstrated and supervised the process. Here Barnhart shows a middle schooler how to prepare a shirt for the screen printing.



Other WMU students who assisted with the workshops included **Qais Alsafafeh**, who is seeking a Ph.D. in electrical engineering (EE), **Anil Koirala** and **Memuna Sarfraz**, EE master's students, and **Ishrak Mamun**, an EE undergraduate

For the last two years 36 middle schoolers from Kalamazoo Public's middle schools, Parchment Middle School; Paramount Charter School, and Otsego Middle School have been participating in the EYH project directed by **Dr. Ikhlas Abdel-Qader**, an associate professor in the ECE department.



Seventh and eighth graders from Kalamazoo and Otsego show off the new tee shirts that they screen printed at the Saturday workshop at WMU.

The project, "WMU-Kalamazoo Promise Partnership: Promoting Engineering Careers to Female, Minority and Economically Disadvantaged Middle School Students," is funded by a \$245,000 grant from the WMU President's 2005 Innovation Fund. **Dr. Sherif Yehia**, a CCE associate professor, and **Dr. Edmund Tsang**, associate dean of CEAS, are co-contributors to the project.

"Our goal is to motivate middle school students to go to college and study in the engineering, technology, science, and mathematics fields," Abdel-Qader said. "We want to help these students take advantage of the Kalamazoo Promise and become the best that they can be."

Opinions and ideas, please! Send your thoughts on this article or suggestions for future articles to the editor at [jerrie.fiala@wmich.edu](mailto:jerrie.fiala@wmich.edu). Thank you.