

EDUCATION

On top of the fashion trend, Kent State University offers laser cutting in its TechStyleLAB. **By Kathlyn Swantko**

Students Making the Cut

Cutting fabric with lasers is one of the latest fashion trends seen on the fashion runways of Europe and the U.S. The use of laser cutting among top fashion designers is a way of adding new interest to their apparel collections. Crossing a broad range of industries from apparel to accessories to footwear, laser cutting is also being used to add newness and excitement to a variety of fabrics and component materials, and to add a unique appearance to the finished products.

Kent State University has been on top of this trend since the summer of 2011, when the school acquired its FB 1650 Flatbed Laser Cutting System with roller feed from Radian Laser Systems, for its Fashion School TechStyleLAB.

Use of Laser Cutting as a Fashion Tool

"Our TechStyleLAB provides a digital textile printing service and laser cutting services to the campus community and to the public," explained Kevin Wolfgang, TechStyleLAB manager. "Currently we have six students using the laser cutting machine for their final senior collections, two students using it as an independent study, and a class of six graduate students from our School of Textile Art investigating the possibilities."

According to Wolfgang, laser cutting is a tool that must include experimentation and practice to perfect the result. There are a lot of techniques like etching and kiss-cutting (cutting through the first surface without cutting the second) that the school is exploring, along with creative effects like distressing. Experimenting is an important step in learning, since



Hands On: Maria Margala working with Laser Cutting equipment at Kent State.

tutorials showing these types of procedures are hard to find.

One of Kent State's faculty members, Linda Ohrn-McDaniel, is investigating the opportunity of launching her own apparel collection of laser-cut clothing under her own self-titled branded name. Wolfgang states, "Linda is cutting wool jersey and cotton jersey. Through a process of slashing and knitting, Linda is able to create the form of a garment. Different effects can be achieved by altering the height to width proportion of the slashes. Linda has designed full length dresses, tops, and casual pants using this technique."

Laser Cutting Fabrics

In addition to wool and cotton jersey, Kent State students have worked with poly and poly blended wovens and knits, Ultrasuede, and other natural fibers. Students are also cutting poly blends for bridal, wool felt for art objects, and polyester lining fabric for scarves.

When cutting poly and poly blends, the students take advantage of the fact that the fiber melts and seals itself with each pass of the laser. According to Wolfgang, natural fiber cuts well, but can have a little singe on the cutting lines, which tends to cause an odor that lasts about three days. Another consideration in cutting woven

fabrics is hemming the cut edges.

The intricacy of a pattern must be analyzed prior to laser cutting. Margarite Benitez, assistant professor & fashion technologist for Kent State, explains, "Since there may be some limitations to laser cutting an intricate pattern, the designer needs to be sure to leave areas where the fabric is connected. Otherwise, the fabric may not drape well or stay together as a piece of cloth, and the integrity of the fabric may be lost."

Laser cut patterns can also be backed with other fabrics to create interesting effects. Angela Kuruc, one of Kent State's design students, cut a fleur-de-lis pattern into the hems of a tiered wedding dress. She backed the cutouts with sheer organza by applying dots of fusible

webbing to attach the organza to the wrong side of the satin fabric.

Laser cutting can also change the texture of the fabric. Wolfgang notes, "If you cut an image into the fabric that maintains the traditional grid weave structure, your cut piece will drape on a form like a woven textile. However, if your cut piece has a design that doesn't follow the grid-like weave, the fabric will take on a new texture and drape like a bias-cut piece." ●

Kathlyn Swantko, president of the FabricLink Network, created TheTechnicalCenter.com for industry networking and marketing of specialty textiles, and FabricLink.com for consumer education about everything fabric.

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For more information on Kent State's TechStyleLAB and its laser cutting equipment, contact Kevin Wolfgang kwolfga3@kent.edu, 330-672-1635 or Margarite Benitez mbenitez@kent.edu, 330-672-0170.