



## What's Up with DATS?: The Redesign of a Digital Textile Printing Course

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The market for digital textile printing is projected to grow to \$1.3 billion by the end of 2014 according to the Printing Industry Research Association (Monson, 2013). Digital printing technologies for repeat print design are also used in a variety of industries such as paper goods, home furnishings, and historic reproductions; therefore knowledge in these areas will increase job opportunities for students. According to Dani Locastro of Design Works International/First2Print (2013), digital textile printing is used in the apparel industry as: (a) a sampling solution or (b) end products for retail. Early in the adoption of digital textile printing in the apparel and textile industry, Mike Fralix of TC<sup>2</sup> (2001) stated:

Introduction to digital textile printing technologies in the fashion and apparel industries, which includes an overview of the history of digital textile printing, color matching, quality control, use of rip software, types of inks and print heads, profiling for print efficiency and application of color communication within the printer's capabilities. Development of repeat and engineered prints to demonstrate an understanding of the interface of 2-D printed textiles with 3-D apparel forms. (p. 6)

In 2014, many academic programs have the capabilities to teach students both repeat and engineered printing skills; however, still a relatively low number of graduates from apparel, merchandising, or design programs are proficient in digital textile printing and other textile design creation processes. This presentation will describe curricular changes to a seminar course taught at Iowa State University to create an expanded studio course taught in the Digital Apparel and Textiles Studio (DATS). Our goals for implementing the curricular changes were to: (a) include a historical introduction to textile printing technologies, information on the operation of the printer, and technical aspect of color application and communication, (b) increase direct job opportunities in digital textile printing and allow students to develop vocabulary and technical knowledge to facilitate communication with manufacturers of digital prints (textile and paper), samples, and prototypes in the industry, (c) integrate other textile design processes such as computerized embroidery, laser printing, machine knitting, and long-arm quilting with digital textile printing, (e) for students to produce portfolio-ready and juried exhibition submission-ready projects and (d) provide a foundation for undergraduate and graduate student digital textile printing research opportunities, which was lacking in our program.

### **Course Description and Course Objectives**

The newly expanded course description is as follows:

*Introduction to digital textile printing technologies in the fashion and apparel industries, which includes an overview of the history of digital textile printing, color matching, quality control, use of rip software, types of inks and print heads, profiling for print efficiency and application of color communication within the printer's capabilities. Development of repeat and engineered prints to demonstrate an understanding of the interface of 2-D printed textiles with 3-D apparel forms. (Spring 2014 course syllabus)*

The measurable objectives for the redesigned course are that, students will: (a) exhibit an understanding of the history of textile printing processes, (b) use and apply proper vocabulary in relation to digital textile printing technologies, (c) demonstrate an understanding of the operation of digital textile printers, inks, and print heads, (d) demonstrate an understanding of color management, color profiling, color communication and quality control in digital textile printing, (e) develop an understanding of the trends in digital textile printing in the textile, apparel and related industries, (f) communicate and present textile and apparel design ideas in both written and oral formats, (g) create non-engineered and engineered print designs appropriate for use in 3-dimensional garments, (h) construct garments that demonstrate an innovative ways to interface 2-dimensional textiles with 3-dimensional garments, (i) design and construct a garment that includes digital textile printing and at least one additional textile art technique, (j) apply appropriate pattern making, draping, CAD pattern making, apparel assembly processes, and finishing techniques to digitally printed textile designs and garments that demonstrate an understanding of the relationship of processes to cost and quality for specified target markets, and (k) critique their own work and that of peers to evaluate correct methods and identify ways to strengthen future work.

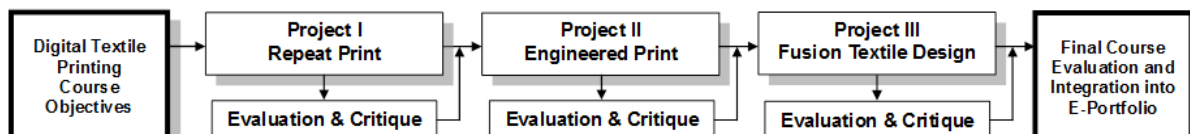


Figure 1. Model for the redesign of the digital textile printing course

The authors will share in the presentation: (a) examples of course materials, (b) examples of student projects, for all three projects, (c) strategies for pricing materials and printing to charge back students, (d) methods for managing the equipment, inventory of materials and a large class size, and (e) best practices for training student assistants (undergraduate and graduate) in the lab. The presentation will also include student feedback and evaluations.

### References

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