

# FY2008 Learning Technologies Grants Proposal

(COVER PAGE)

## Project Information

21<sup>st</sup> Century Computerized Dobby Looms for Centuries Old Weaving Process

Project Title

Clay McLaurin

Project Director

Lamar Dodd School of Art

Requesting Department

\$15,000

Amount Requested Year 1

\$15,000

Amount Requested Year 2

Project Director's Signature

## Proposal Endorsement Signatures

Department Head

Dean

Proposal Abstract (100-word maximum)

The fabric design program uses the treadle loom developed in China over 3,000 years ago and refined in the near east and Europe. With the advent of computer-controlled looms, we want to introduce our students to the synergy of computer technology and the ancient treadle loom, which was a huge advancement in the production of textiles just as the computer has impacted technology in the 20th and 21st centuries. We need to provide our students with the experience of the computer-controlled looms to be competitive in preparing them for positions in industry and as studio weavers.

## Section I. Project Description

- *nature of the innovation*

The history of fabric production stretches back at least 27,000 years and continuing archeological exploration keeps pushing this date further into the distant past. This development is closely associated with the production of stone tools but pre-dates the introduction of pottery, bronze and iron into human history. The fabric design program incorporates these processes that were developed 27,000 years ago. The treadle loom, which we use in our classes today probably, dates from the 4<sup>th</sup> century B.C.E. in China. Further developments in China produced looms that could weave more complex patterns that are now standard for the textile industry and for hand weavers as well. With the advent of computer-controlled looms, we want to introduce our students to the melding of computer technology with the ancient treadle loom. The advent of the treadle loom was a huge advancement in the production of textiles just as the computer has had a huge impact on technology in the 20<sup>th</sup> and 21<sup>st</sup> centuries. The computer-controlled loom allows the students to create much more complex weave structures than the looms now in use. It is also important to note the strong historical connection between the loom and the computer. The invention of the Jacquard loom in France in the 18<sup>th</sup> century, with its binary system, is considered the grandfather of the 20<sup>th</sup> century computer.

- *need/rationale*

As outlined above we are using a type of 4-harness treadle loom in our studio courses that has a long history with little change over centuries. It is time for our program to join the 21<sup>st</sup> century with the inclusion of computer-controlled looms. This use of technology will enhance the artistic output and prepare our students for industrial application and innovation in both industry and in studio artistic production. We want our students to experience not only the speed and convenience of computer-controlled looms but to learn about the complexities of weave structures that are not possible on the 4-harness treadle looms that are used in our introductory courses. Many of the programs in textiles/fabric design in other institutions have this technology in place and our students are at a definite disadvantage in securing design positions in industry and well in art competitions, gallery exhibitions and private commissions.

- *relevance of the project to unit and University priorities*

The goal of the Lamar Dodd School of Art is to provide our students in fabric design with the background and experiences that will allow them to be successful in acquiring positions as designers in industry or to achieve success as studio artists. We are committed to developing courses that will incorporate a balance and a synergy between design/technology and art. In order to do this we must incorporate the latest technology that is available to educational institutions of the caliber of the University of Georgia.

- *specific courses benefiting from the project*

ARST 3710    Advanced Weaving  
ARST 4700    Advanced Decoration (Portfolio)  
ARST 4710    BFA Project in Fabric Design  
ARST 4780    Directed Study in Fabric Design  
ARST 7700    Fabric Structure  
ARST 7780    Directed Study in Fabric Design  
ARST 7980    Directed Study in Major Studio Area  
ARST 8000    General Art  
ARST 8010    General Art

In addition specific courses will be developed that will provide a concentrated experience with computer-controlled loom weaving at both the undergraduate and graduate levels.

- *number of students served including undergraduate, graduate/professional or both*

Studio classes in the Lamar Dodd School of Art tend to be small due to the nature of the discipline, classroom size and equipment available. This is especially true in fabric design.

We anticipate approximately 80 students each year.

**Section II. Budget**

- *List technology, facilities, and other resources requested.*
- *Year 1: Proposed Budget*

Item	#	Total Cost	Requested from LTC	Provided by other Sources
20" Studio Dobby Loom	2	\$13,430.00	\$13,430.00	Assembly will be the responsibility of Fabric Design Staff.
2 <sup>nd</sup> Beam	3	\$996.00	\$996.00	Installed by Fabric Design Staff
Software	3	\$574.00	\$574.00	Repurposed computers provided by Tech Staff
<b>Total</b>		<b>\$15,000.00</b>		

- *Year 2: Proposed Budget*

Item	#	Total Cost	Requested from LTC	Provided by other Sources
20" Studio Dobby Loom	1	\$6,681.00	\$6,681.00	Assembly will be the responsibility of Fabric Design Staff.
Electronic Lift	3	\$7,842.00	\$7,842.00	Installed by Fabric Design Staff
Loom Benches	2	\$342.00	\$342.00	
Loom Aprons	3	\$135.00	\$135.00	
<b>Total</b>		<b>\$15,000.00</b>		

- *Budget justification narration*

The AVL Company is the sole manufacturer of the 24-harness dobbie loom that is suitable for school and studio use. The benefits of the introduction of computer-controlled looms is detailed in the Project Description above. Our students need to have the experience of working with 21<sup>st</sup> century technology in our courses just as they do with personal computers, ipods, cell phones and other aspects of contemporary life today. The addition of this technology will give our students experiences that are far beyond what is possible with our current equipment.

- *Timeline for development of the project using the following format:*

Date	Objective	Persons Responsible
As soon as funds are available	To have it installed within 1-2 months of delivery	Glen Kaufman Clay McLaurin

### **Section III. Learning Outcomes**

- *learning outcomes and how resources will be used to achieve these outcomes*

Use of computer-controlled looms will result in weave portfolios and creative exhibition projects of greater complexity that are not possible with current equipment. It will also provide our students with an in-depth investigation of woven structure. A focus on the interaction of color, material and repeating pattern will be examined. The objectives will be for each student to expand their knowledge of various woven structures, to gain a better understanding of how color can visually enhance the structure and pattern created, as well as to examine how material plays an integral role in the final understanding of the woven fabric. Open-ended experimentation and exploration is encouraged.

- *methods for evaluating the project and learning outcomes*

The use of this new technology will result in creative projects and portfolios that can be judged on the standards used to judge any work of art: originality of concept, effective use of materials (in fabric design including fiber, color, yarn structure, texture, etc.), process and the impact on the viewer of the final result. We anticipate a high level of creativity and professionalism. Great emphasis will be given to what role the fabric will play, and what experience it will provide the viewer and user in application. The students are to focus on the problems posed by a particular application and to create innovative and imaginative solutions to those problems.

- *potential applications in other academic areas*

We anticipate courses in computer-controlled loom weaving will attract students in Interior Design from the Lamar Dodd School of Art and in the Department of Textiles, Merchandising and Interiors, College of Family and Consumer Sciences.

#### **Section IV. Support Plan**

- *Staffing and resources to be used to continue the initiative following LTG funding.*

The Staff, Faculty and Graduate Assistants will continue to maintain the facility using resources for use by the sculpture program.