TO: UGCC – Meeting March 2011  
FROM: Alan Rosiene, Department of Humanities & Communication  
SUBJECT: New Courses in Textiles  

The Humanities and Communication Department proposes the following new courses in textiles to support the Ruth Funk Center for Textile Arts:

TEX 2001 Introduction to Textiles

TEX 2002 Survey of Textile Industry (prerequisite TEX 2001)  
TEX 2003 Introduction to Textile Conservation (prerequisite TEX 2001)  

TEX 3001 Science of Textiles (prerequisites EDS 1021, TEX 2003)  

These courses will form the basis of the Textile Minor and support its three tracks, which will be proposed at the next meeting of the UGCC. To complete the third track of the minor, two more courses will be proposed at that time: TEX 2004 20th Century Costume History and TEX 3002 Modern Textile Arts Design.
Florida Institute of Technology

ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

SUBJECT TEXT (e.g., CSE) COURSE NO. 2001 (e.g., 1301) CREDIT HOURS 3 TERM TO BE ADDED TO THE FILE Spring 2012 (e.g., Fall 2010)

CLASS HOURS 45/semester LECTURE HOURS 45/semester LAB HOURS CONTACT HOURS (CEU ONLY)

DEPARTMENT Humanities and Communication (e.g., Computer Sciences) SCHEDULE TYPE Lecture (A) (e.g., Lecture, Lab or Special Topics/Project)

☐ COLLEGE OF AERONAUTICS − 23 ☒ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS − 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS − 24 ☐ COLLEGE OF SCIENCE − 26
☐ COLLEGE OF ENGINEERING − 1 ☐ EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS − 90

COMPUTER TITLE Restricted to 25 characters, including spaces Intro to Textiles

CATALOG TITLE Introduction to Textiles

CATALOG DESCRIPTION OF COURSE Restricted to 350 characters, including spaces


This description has been approved by the catalog office 3/17/11

Catalog Director

In addition, please attach a course syllabus and/or more detailed description.

GRADES TO BE ISSUED

☒ A, B, C, D, F ☐ A, B, C, D, F, CEU/Audit
☐ CEU ☐ S, U
☐ P, F ☐ Other

ADDITIONAL RESTRICTION

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g., CSE) COURSE NO. (e.g., 1301) TERM TO INACTIVATE

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Or

Dean or Associate Dean

Chair, Undergraduate Curriculum Committee

CATALOG DIRECTOR

These changes/additions have been made for the University Catalog/policy management system and entered into the BANNER term named above.

Catalog Director

REGISTRAR’S USE ONLY

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RGR-008-111
TEX 2001 Introduction to Textiles

Course Description: This course is designed to give students a basic knowledge of textiles including fiber basics, textile production and performance characteristics. Upon taking this course, students will have a solid foundation of basic textile components including fibers, yarns, fabrics and finishes as well as fiber and fabric construction and the factors that impact product performance.

Prerequisites: None

Competencies:

* Develop an understanding and appreciation of textiles and their uses
* Analyze and identify fiber types, yarn types and fabrication methods
* Understand textile terminology and use correctly
* Determine the impact of various production processes both economically and environmentally
* Predict fabric and product performance with a knowledge of fibers, yarns and construction methods
* Identify proper care for textile products

Outline of Course Work: This course will be a lecture format with basic lab components. Students will be required to purchase and complete a swatch kit as a companion to the textbook readings. Learning activities, case studies and basic lab assignments will enable students to learn about textiles, their compilations and uses in a hands-on manner.

Required Text and Kit:


Recommended Text:


Grading Division:

10% of grade - Quiz
15% of grade - Power Point
5% of grade - In class Labs
20% of grade - Swatch Kit
20% of grade - Midterm
30% of grade - Final Exam
Grading Scale:

90–100=A    70–79=C    59&below=F
80–89=B    60–69=D

Classroom Policy

- Turn off cell phones during class
- No iPods or MP3s during class
- The lecture will start 5 minutes after the period has started
- Be respectful. Class participation is welcomed and strongly encouraged.
- Academic Dishonesty, especially plagiarism, will not be tolerated and will result in a grade of 0 for the assignment and/or a grade of F for the course
- Attendance is required for all classes. Four or more unauthorized absences will result in a one letter grade penalty on final grade.

Course Schedule

Week 1 Introduction and review course outline and class requirements
Homework: Read Ch 1-2 & Swatch Kit

Week 2 Discussion: Ch 1-2: Introduction and product development of textiles
Homework: Read Ch 3-4 & Swatch Kit

Week 3 Discussion: Ch 3-4: Textile fibers and their properties & natural cellulosic fibers
Homework: Read Ch 5-6 & Swatch Kit
Deliverable: Lab #1

Week 4 Discussion: Ch 5-6: Natural protein fibers & fiber manufacturing process
Homework: Read Ch 7-8 & Swatch Kit
Deliverable: Lab #2

Week 5 Discussion: Ch 7-8: Manufactured regenerated fibers & synthetic fibers
Homework: Read Ch 9-10 & Swatch Kit
Deliverable: Quiz

Week 6 Discussion: Ch 9-10: Special use fibers & yarn processing
Homework: Read Ch 11-12 & Swatch Kit
Deliverable: Lab #3

Week 7 Discussion: Ch 11-12: Yarn class & weaving, basic weaves and fabrics
Homework: Read Ch 13-14 & Swatch Kit

Week 8 Deliverable: Midterm Exam
Week 9 Discussion: Ch 13-14: Complex weaves and fabrics & knitting/ knit fabrics
Homework: Read Ch 15-16 & Swatch Kit
Deliverable: Lab #4

Week 10 Discussion: Ch 15-16: Fabrication methods & overview of textile finishing
Homework: Read Ch 17-18 & Swatch Kit

Week 11 Discussion: Ch 17-18: Aesthetic finishes & special purpose textile finishes
Homework: Read Ch 19-20 & Swatch Kit
Deliverable: Lab #5

Week 12 Discussion: Ch 19-20: Dyeing and printing & care of textile products
Homework: Read Ch 21-22 & Swatch Kit
Deliverable: Swatch Kits Due

Week 13 Discussion: Ch 21-22: Legal, sustainability, environmental issues & careers
Homework: Review for Final Exam & PowerPoint presentations

Week 14 Deliverable: PowerPoint Presentations

Week 15 Deliverable: Final Exam
**Florida Institute of Technology**

**ADDING A NEW COURSE TO THE CURRICULUM**

This course is available for student registration only after the approval process has been completed.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>TEX</th>
<th>COURSE NO.</th>
<th>2002</th>
<th>CREDIT HOURS</th>
<th>3</th>
<th>TERM TO BE ADDED TO THE FILE</th>
<th>Spring 2012</th>
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<th>45/semester</th>
<th>LECTURE HOURS</th>
<th>45/semester</th>
<th>LAB HOURS</th>
<th>CONTACT HOURS (CEU ONLY)</th>
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<th>Humanities and Communication</th>
<th>SCHEDULE TYPE</th>
<th>Lecture (A)</th>
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<td>(e.g., Lecture, Lab or Special Topics/Project)</td>
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- COLLEGE OF AERONAUTICS – 23
- COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS – 25
- NATHAN M. BISK COLLEGE OF BUSINESS – 24
- COLLEGE OF SCIENCE – 26
- COLLEGE OF ENGINEERING – 1
- EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS – 90

**COMPUTER TITLE** Restricted to 25 characters, including spaces

**Textile Industry**

**CATALOG TITLE** Survey of Textile Industry

**CATALOG DESCRIPTION OF COURSE** Restricted to 350 characters, including spaces

Introduces the current textile industry and its major components. Includes globalization and free/fair trade and a department store simulation focusing on retailing and importing in the U.S.

This description has been approved by the catalog office

[Signature] 3/17/11

Catalog Director

**In addition, please attach a course syllabus and/or more detailed description.**

**GRADES TO BE ISSUED**

- A, B, C, D, F
- A, B, C, D, F, CEU/Audit
- CEU
- S, U
- P, F
- Other

**ADDITIONAL RESTRICTION**

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

<table>
<thead>
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<th>SUBJECT Prefix (e.g., CSE)</th>
<th>COURSE NO. (e.g., 1301)</th>
<th>TERM TO INACTIVATE</th>
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**APPROVALS:** Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

[Signature] 3-17-11

Chair, Graduate Council

[Signature] 3/17/11

Department Chair/Program Chair

[Signature] 3/17/11

Dean or Associate Dean

**CATALOG DIRECTOR**

These changes/additions have been made for the University Catalog/policy management system and entered into the BANNER term named above.

[Signature] 3-17-11

Catalog Director

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RGR-098-111
TEX 2002 Survey of the Textile Industry

Course Description: This course is designed to introduce students to the current textile industry and its major components. Globalization has made international business acumen and export-import savvy a cost of entry in the textile marketplace making a careful analysis of world cultures and government policies crucial for success. Students will learn about the textile industry today, post 9/11, including topics of globalization and free/ fair trade. Students will further their understanding of these topics with a department store simulation that focuses on a retail buyer importing textile product into the United States.

Prerequisite: TEX 2001 Introduction to Textiles

Competencies:

- Understand the importance of conducting business in the global arena
- Learn the principles of international business protocol
- Translate ethical business strategies into applicable decisions for the importing simulation
- Understand the basics of importing trade agreements and laws governing the importation of textiles and apparel
- Analyze the logistics of importing and career opportunities in the textile industry
- Identify financial factors involved in the textile industry
- Create an import/export international business plan
- Identify career paths in textiles as well as industry leaders in printing and manufacturing

Outline of Course Work: This course will be a combination lecture/ simulator format with emphasis on globalization and international export and import trade.

Required Texts:


*Perry’s Department Store: an Importing Simulation.* Reamy, Donna W. and Steele, Cynthia W. Fairchild Books.

Grading Division:

15% of grade – Class Assignments
20% of grade – Simulation Project
15% of grade – Quiz
20% of grade – Midterm
30% of grade – Final Exam

Grading Scale:

90–100=A 70–79=C 59&below=F
80–89=B 60–69=D
Classroom Policy

- Turn off cell phones during class
- No iPods or MP3s during class
- The lecture will start 5 minutes after the period has started
- Be respectful. Class participation is welcomed and strongly encouraged.
- Academic Dishonesty, especially plagiarism, will not be tolerated and will result in a grade of 0 for the assignment and/or a grade of F for the course
- Attendance is required for all classes. Four or more unauthorized absences will result in a one letter grade penalty on final grade.

Course Schedule

Week 1: Introduction and review course outline and class requirements
Homework: Read Ch 1: An Overview of Global Business Today
Read simulation introduction & Ch 1

Week 2: Ch 1: An Overview of Global Business Today
Read Ch 2: Globalization and Trade Liberalization
Simulation Step 1: Country profile in outline form

Week 3: Ch 2: Globalization and Trade Liberalization
Read Ch 3: The US Role in Global Trade
Simulation step 2: Analysis of chosen import country

Week 4: Ch 3: The US Role in Global Trade
Read Ch 4: Basics of Exporting
Simulation Step 3: Executive summary

Week 5: Work on Laws and Trade Agreements Paper, due next class

Week 6: Ch 4: Basics of Exporting
Read Ch 5: US Export Controls and Procedures
Simulation step 4: Paper on Laws and Trade Agreements

Week 7: Ch 5: US Export Controls and Procedures
Read Ch 6: Basics of Importing into the United States
Simulation step 5: Complete the classifying the product worksheet

Week 8: Ch 6: Basics of Importing into the United States
Read Ch 7: Review for Midterm Exam
Simulation step 6: Complete form 07.05

Week 9 Deliverable: Midterm Exam
Week 10: Ch 7: Entering the Import Business  
Read Ch 8: Navigating the Maze of Import Controls  
Simulation step 6: Complete form 07.06

Week 11: Ch 8: Navigating the Maze of Import Controls  
Read Ch 9: Exporting America’s Fashion Goods Around the World  
Simulation step 6: Complete form 07.07

Week 12: Ch 9: Exporting America’s Fashion Goods Around the World  
Read Ch 10: Getting Paid or Paying for Exports or Imports  
Simulation Step 7: Parts I, II, III of Shipping Routes sheet

Week 13: Read Ch 10: Getting Paid or Paying for Exports or Imports  
Simulation Step 8: Entry Package Due  
Simulation Paper

Week 14: Review Simulation process, discuss take-aways  
Simulation Paper Due

Week 15 Deliverable: Final Exam
This course is available for student registration only after the approval process has been completed.

SUBJECT (e.g., CSE) TEX COURSE NO. 2003 CREDIT HOURS 3 TERM TO BE ADDED TO THE FILE Spring 2012 (e.g., Fall 2010)

CLASS HOURS 45/semester LECTURE HOURS 45/semester LAB HOURS CONTACT HOURS (CEU ONLY)

DEPARTMENT Humanities and Communication (e.g., Computer Sciences) SCHEDULE TYPE Lecture (A) (e.g., Lecture, Lab or Special Topics/Project)

☐ COLLEGE OF AERONAUTICS – 23 ☒ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS – 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS – 24 ☐ COLLEGE OF SCIENCE – 26
☐ COLLEGE OF ENGINEERING – 1 ☐ EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS – 90

COMPUTER TITLE Restricted to 25 characters, including spaces Intro to Text Conserv

CATALOG TITLE Introduction to Textile Conservation

CATALOG DESCRIPTION OF COURSE Restricted to 350 characters, including spaces

Introduces textile conservation and display. Focuses on identification and properties of fibers and weaves; assessing condition and treatment options; and documentation, storage and handling textiles. Also emphasizes preventative conservation, stabilization and repair practices.

This description has been approved by the catalog office 3/17/11

CATALOG DIRECTOR

In addition, please attach a course syllabus and/or more detailed description.

RESTRICTIONS ☒ Prerequisite TEX 2001 ☐ Corequisite Course Number ☐ and ☐ or Course Number

☐ Prerequisite Course Number ☐ Corequisite Course Number ☐ and ☐ or Course Number

☐ Prerequisite Course Number ☐ Corequisite Course Number ☐ and ☐ or Course Number

GRADES TO BE IssUED ☒ A, B, C, D, F ☐ A, B, C, D, F, CEU/Audit

☐ CEU ☐ S, U ☐ P, F ☐ Other

ADDITIONAL RESTRICTION (e.g., Major, Class Level, Department Head Approval)

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SUBJECT Alpha Prefix (e.g., CSE) COURSE NO. (e.g., 1301) TERM TO INACTIVATE

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Chair, Graduate Council Date

R. Taylor Date

Dean or Associate Dean Date

Chair, Undergraduate Curriculum Committee Date

CATALOG DIRECTOR

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Catalog Director Date

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RGR-096-111
FLORIDA INSTITUTE OF TECHNOLOGY
TEX2003, Introduction to Textile Conservation
Semester TBD, Year TBD

Instructor: TBD

Contact: TBD

Location: TBD

Prerequisite: TEX 2001, Introduction to Textiles

Text:

Course Description: Introduction to Textile Conservation will focus on: identification of fibers, weaves and their properties; assessment of condition and treatment options; documentation systems; storage and handling of textiles; preventative conservation practices; stabilization and repair practices; display methods.

Course Objectives:
Knowledge of the conservation of textiles is necessary for a foundational education of textiles. Gaining awareness to the special needs of textiles and being able to act on these needs by implementing the necessary knowledge and conservation techniques gained in this course will give the student base proficiency to successfully handle textiles in any professional environment.

Specific objectives for students of this course will be:

- To understand ethical issues surrounding conservation
- To further examine and build practice in the identification of fiber and weaves, their properties, and dyes
- To be introduced to museum registrar practices such as documentation and recording, writing condition reports, and necessary museum software
- To demonstrate safe handling and storage techniques
- To look at preventative conservation of textiles
- To implement essential conservation techniques such as preparing of textiles, cleaning, and stabilizing
- To be introduced to the practice of full textile restoration
- To exhibit objects using proper mounting procedures
- To put into practice the before-mentioned principles through a series of class and individual projects
**Class Schedule** (This schedule has been designed to fit a Tu/Th schedule for 16 weeks (31 class periods) and does not include possible holiday interruptions)

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Reading/Activity</th>
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<tbody>
<tr>
<td>TBD (T/Th)</td>
<td>Intro and course description</td>
<td></td>
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<tr>
<td>TBD</td>
<td>The role of conservator</td>
<td>(Mailand, Alig) pp. 13-15 (Landi) pp. 3-7</td>
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<tr>
<td>TBD</td>
<td>Review of fibers, weaves, dyes</td>
<td>(Landi) pp. 9-27</td>
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<tr>
<td>TBD</td>
<td>Focuses of textile conservation</td>
<td>(Landi) 28-31</td>
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<tr>
<td>TBD</td>
<td>Recording-Introduction to Past Perfect software</td>
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<tr>
<td>TBD</td>
<td>The workroom-Storage and packing procedures, archival products</td>
<td>(Mailand, Alig) pp. 37-45 (Landi) pp. 170-74</td>
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<tr>
<td>TBD</td>
<td>The workroom contd.- Practice properly preparing an object for storage</td>
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<tr>
<td>TBD</td>
<td>Condition assessment</td>
<td>(Landi) pp. 28-37</td>
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<tr>
<td>TBD</td>
<td>Project-Documentation project</td>
<td>In-class work time</td>
</tr>
<tr>
<td>TBD</td>
<td>Project-Documentation project</td>
<td>In-class work time</td>
</tr>
<tr>
<td>TBD</td>
<td>Museum visit to examine storage facilities</td>
<td></td>
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<tr>
<td>TBD</td>
<td>Preventative conservation-lighting, humidity, temperature</td>
<td>(Mailand, Alig) pp. 19-24</td>
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<td>TBD</td>
<td>Preventative conservation-pest treatment: freezing textiles</td>
<td>(Mailand, Alig) pp. 24-27 (Landi) p. 59</td>
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<td>TBD</td>
<td>Exam I</td>
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<td>TBD</td>
<td>Stabilizing I-removing unwanted components</td>
<td>(Landi) pp. 52-58</td>
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<td>TBD</td>
<td>Stabilizing II-materials used for stabilization</td>
<td>(Landi) pp. 106-108</td>
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<tr>
<td>TBD</td>
<td>Stabilizing III-stitching</td>
<td>(Landi) pp. 112-120</td>
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<td>TBD</td>
<td>Project-Stitching samples</td>
<td>In-class work time</td>
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<td>TBD</td>
<td>Stabilizing-adhesives</td>
<td>(Landi) pp. 120-129</td>
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<td>TBD</td>
<td>Project-Object conservation</td>
<td>In-class work time</td>
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<td>TBD</td>
<td>Project-Object conservation</td>
<td>In-class work time</td>
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<tr>
<td>TBD</td>
<td>Cleaning I-testing for colorfastness</td>
<td>(Landi) pp. 49-51</td>
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<tr>
<td>TBD</td>
<td>Cleaning II-chemicals</td>
<td>(Landi) pp. 67-78</td>
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<tr>
<td>TBD</td>
<td>Cleaning III-methods</td>
<td>(Landi) pp. 79-97, 98-105 (optional)</td>
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<td>TBD</td>
<td>Project (Group)-wet clean a textile</td>
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<tr>
<td>TBD</td>
<td>Restoration</td>
<td>(Landi) pp. 149-159</td>
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<tr>
<td>TBD</td>
<td>Exam II</td>
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<tr>
<td>TBD</td>
<td>Mounting for display</td>
<td>(Mailand, Alig) pp. 47-56 (Landi) pp. 160-169</td>
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<td>TBD</td>
<td>Museum visit to examine display techniques</td>
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<td>TBD</td>
<td>Project-Display project</td>
<td>In-class work time</td>
</tr>
<tr>
<td>TBD</td>
<td>Project-Display project</td>
<td>In-class work time</td>
</tr>
<tr>
<td>TBD</td>
<td>Final Exam</td>
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</table>
Description of Projects:

Project I - Documentation
- Student is to create a mock record of five objects that have been taken into permanent custody by a museum. This includes assigning ID numbers to objects, filling out all necessary paperwork related to objects, photographing and researching all technical aspects of the object (fiber, weave, etc.), and entering the data into a computerized documentation system.

Project II - Stitching
- Student is to create a stitching sample of proper conservation stitches learned.

Project III - Conservation
- Student is to stabilize textile or costume in poor condition using reinforcing techniques so as to prevent further deterioration of object.

Project IV - Display
- Student is to be responsible for preparing and mounting one object for a mock exhibition of all students’ works.

Project V - Cleaning (Group)
- Students are to practice wet-cleaning a textile by deciding which chemicals to use or not to use, testing for colorfastness, and finally cleaning the textile after following all appropriate procedures.

Grading Policy:

<table>
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<th>Type</th>
<th>Percentage</th>
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<tr>
<td><strong>Individual Projects</strong>*</td>
<td>60%</td>
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<tr>
<td>Project I - Documentation</td>
<td>(15%)</td>
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<tr>
<td>Project II - Stitching</td>
<td>(15%)</td>
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<tr>
<td>Project III - Conservation</td>
<td>(15%)</td>
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<tr>
<td>Project IV - Display</td>
<td>(15%)</td>
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<tr>
<td><strong>Group Projects</strong></td>
<td>5%</td>
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<tr>
<td>Project V - Cleaning</td>
<td>(5%)</td>
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<td><strong>Exams</strong></td>
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<tr>
<td>Exam I</td>
<td>(10%)</td>
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<tr>
<td>Exam II</td>
<td>(10%)</td>
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<tr>
<td>Final Exam (Not comprehensive)</td>
<td>(10%)</td>
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<tr>
<td><strong>Attendance</strong></td>
<td>5%</td>
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* Determination of Project grades will look at project completion and timeliness of completion, whether or not project guidelines were followed, and overall quality of the finished work.
Cheating/Plagiarism and Academic Dishonesty

Academic dishonesty will not be tolerated by the university. Examples include (but are not limited to): cheating, plagiarism, and taking advantage of supervisor integrity. Incidents will be acted upon in accordance with university policy as outlined in the Student Handbook (Academic Honesty link) at: http://www.fit.edu/studenthandbook/

Recommended Readings

Attendance Policy

Students are responsible for attending classes regularly unless special circumstances apply due to illness or special religious observances. In the event of illness, students shall notify the instructor of their absence. In the event of a religious observance, it is the student’s responsibility to notify the instructor at the start of the semester regarding the holidays and any extra travel days planned around those holidays. If a student is to miss class days due to an illness or religious observance, he or she must schedule time with the instructor to take any make-up exams or turn in any missed projects.

Attendance counts for 5% of overall class grade, but regular attendance is necessary if the student wishes to successfully complete required projects. In the event of excessive absences (determined by the instructor) the student is to meet with the instructor to discuss his or her status in the course.

Suggested Readings

Pertegato, Francesco, ed., Conservation and restoration of textiles. International Conference, Como, 1980; CISST: Milan Italy
Florida Institute of Technology

ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

SUBJECT  TEX  COURSE NO.  3001  CREDIT HOURS  3  TERM TO BE ADDED TO THE FILE  Spring 2012  (e.g., Computer Sciences)

CLASS HOURS  45/semester  LECTURE HOURS  45/semester  LAB HOURS  CONTACT HOURS (CEU ONLY) 

DEPARTMENT  Humanities and Communication  SCHEDULE TYPE  Lecture (A)  (e.g., Lecture, Lab or Special Topics/Project)

☐ COLLEGE OF AERONAUTICS – 23  ☒ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS – 25  ☐ COLLEGE OF SCIENCE – 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS – 24  ☐ EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS – 90
☐ COLLEGE OF ENGINEERING – 1

COMPUTER TITLE  Restricted to 25 characters, including spaces  Textile Science

CATALOG TITLE  Science of Textiles

CATALOG DESCRIPTION OF COURSE  Restricted to 350 characters, including spaces

Explores the science of textiles. Includes an overview of yarn and fabric structure and introduces the chemical and physical properties of fibers and fabrics. Covers how these properties influence clothing and textile uses, and discusses the interrelationship of textiles and sustainability.

This description has been approved by the catalog office  3/17/11

In addition, please attach a course syllabus and/or more detailed description.

REQUIREMENTS  ☒ Prerequisite  EDS 1021  ☐ Corequisite __________ Course Number

☐ Prerequisite  TEX 2003  ☐ Corequisite __________ Course Number

☐ and ☐ or

☐ and ☐ or

☐ and ☐ or

☐ and ☐ or

GRADES TO BE ISSUED  ☒ A, B, C, D, F  ☐ A, B, C, D, F, CEU/Audit

☐ CEU  ☐ S, U  ☐ P, F

☐ Other

ADDITIONAL RESTRICTION  (e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT  Alpha Prefix (e.g., CS)  COURSE NO.  (e.g., 1301)  TERM TO INACTIVATE

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council; or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Originator  3-17-11  Chair, Graduate Council  Date

Department Head/Program Chair  2/1/11  OR

Dean or Associate Dean  Date

Chair, Undergraduate Curriculum Committee  Date

CATALOG DIRECTOR

These changes/additions have been made for the University Catalog/policy management system and entered into the BANNER term named above.

Catalog Director  Date

REGISTRAR'S USE ONLY

SCACRS __________ SCADETL __________ SCAPEQ __________ SCABASE __________

SCARIES __________ Operator Init. __________ Date
Course Syllabus for
TEX 3001 Science of Textiles

by

Elizabeth A. Richards, Ph.D., P.H.Ec.
KCR Textile Consultants Ltd.

Edmonton, Alberta
Canada

January 30, 2011
Syllabus – TEX 3001 Science of Textiles

Course Description

Science of Textiles

An introductory exploration of the use of the science of textiles in our world. An overview of yarn and fabric structure. Chemical and physical properties of fibers and fabrics are introduced to aid in understanding how these properties influence various clothing and textile end uses. Inter-relationship of textiles and sustainability are discussed.

Prerequisites: EDS 1021 Survey of Science 1, TEX 2003 Introduction to Textile Conservation

Recommended Course Text


Textile Samples


This Swatch Kit supplements the study of fabric structure and finishes with swatches of fabrics currently available in the textile industry and sold to apparel, home furnishings and industrial designers. There are 114 samples and a key for identification. A 6x magnification linen tester/yarn counter is supplied. The fabric samples will be used throughout the term to illustrate lecture material.

Notes in understanding the course expectations and outline

The course outline presented is developed expecting that students will read the text as an integral component of the course. The readings will be quite extensive, considering that there is not a laboratory for student exercises with this course. A dissecting pick is useful in analyzing textile samples.

Critical Reading

In any new field of study reading technical literature is important in understanding new developments. Two articles will be selected from The Textile Chemist and Colorist to illustrate a marketing type/overview article and a research article. With assistance and guidance from the professor, students will be given suggestions for developing critical reading skills in textile science and how to use these skills in writing a term paper. This journal is available on-line.
Course Objectives

At the end of the course students should be able to:
- describe how textile fibers are classified and labelled
- recognize and determine basic fabric structures
- relate fiber, yarn and fabric properties and finishes to textile performance
- explain what constitutes the three textile performance concepts (durability, appearance, comfort)
- discuss how textile properties influence textile performance concepts (fiber, yarn, structure, finish)
- understand how aesthetic and functional finishes are used in textiles
- identify ways in which textiles can influence our health, comfort and environment

Competencies

At the end of each chapter in the text there is a list of study questions for students. Answering these questions will ensure that students understand the text material and gain the ability to problem solve in the field of textile science. By answering the study questions students will meet the course objectives.

Distribution of marks

<table>
<thead>
<tr>
<th>Assignment</th>
<th>% of final grade</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-term examination 1</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Mid-term examination 2</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Assignment 1</td>
<td>5</td>
<td>Fabric structure</td>
</tr>
<tr>
<td>Assignment 2</td>
<td>10</td>
<td>Fabric structure/performance related to item of apparel</td>
</tr>
<tr>
<td>Assignment 3 a or 3b</td>
<td>10</td>
<td>Textile in museum exhibition/Functional clothing/textile item</td>
</tr>
<tr>
<td>Assignment 4</td>
<td>20</td>
<td>1200 word term paper</td>
</tr>
<tr>
<td>Final Examination</td>
<td>35</td>
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</tr>
</tbody>
</table>

Examinations

Examinations combine multiple-choice, short and long answer questions. They cover material from readings assigned during lectures, specified sections in the textbooks and content from lectures. The mid-term examinations will be conducted in class, and cover the course content to the date of the examination. The final examination will be 120 minutes long and cover the whole course. No electronic devices are permitted and students will not be excused from the exam room once the exam has started.
## Course Outline
based on 15 weeks of classes, 3 hours per week

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings/assignments</th>
</tr>
</thead>
</table>
| 1    | Course introduction: overview, course texts, marking distribution, attendance policy  
Yarn and fabric structure  
Textile supply chain/global trade  
Learning the language of textile science  
Yarn structures | Chpt. 1: pp. 1-13  
Chpt. 13, pp. 223-238  
Use of text glossary |
| 2    | Manufacturing yarns  
Fabric Structures | Chpt. 14, pp. 239-263  
Chpt. 15, pp. 264-272 |
| 3    | Weaving: plain weave, plain weave variations  
Weaving: twill weaves, satin and sateen  
Assignment 1  
Weaving: decorative and Jacquard weaves | Chpt. 16, pp. 273-289  
Chpt. 17, pp. 291-313  
How to use textile samples.  
Explanation of Assignment 1, 10% |
| 5    | Effects of woven structure on fabric performance  
Knitting (2 lectures) | Chpt. 17, pp. 313-320  
Chpt. 18 pp. 321-346 |
| 5    | Non-woven fabrics  
Other fabric construction methods  
Textile fibers: classification, polymer structure, manufacturing, properties  
Assignment 2 | Chpt. 19, pp. 347-363  
Chpt. 20, pp. 263-389  
Chpt. 2: pp. 25-36  
Assignment 1 due  
Explanation of assignment 2,10% |
| 6    | Term examination  
Textile fibers (continued)  
Fiber properties  
Assignment 3 | Chpt. 3 pp. 39-58  
45 minutes, 10%  
Explanation of Assignment 3, 10% |
| 7    | Cellulosic fibers: cotton  
Other cellulosic fibers  
Manufactured cellulosic fibers | Chpt. 4, pp. 59-87  
Chpt. 4, pp. 73-87  
Chpt. 6. pp.125-146 |
| 8    | Protein fibers: wool, silk  
Assignment 4  
Critical Reading of Textile Literature | Chpt. 5, pp. 89 – 103, 112-123  
Explanation of Assignment 4, 20%  
* AATCC journal Textile Chemists and Colorists |
| 9    | Nylon and aramid fibers  
Polyester fibers  
Acrylic, olefin and elastomeric fibers | Chpt. 7, pp. 147-160  
Chpt. 8, pp 161-173  
Chpt. 9-11, pp. 175-205  
Assignment 2 due |
10 Overview textile finishing  
Preparation for dyeing and finishing  
Dyes and pigments  
Chpt. 21, pp. 391-401  
Chpt. 22, pp. 403-422

11 Dyeing processes  
Second term examination  
Chpt. 22, pp. 403-422  
45 minutes, 10%

12 Printing  
Visit to The Ruth Funk Center for Textile Arts  
Chpt. 23, pp. 423-438  
Looking at dyeing and printing in cultural artifacts

13 Aesthetic finishes  
Functional finishes  
Chpt. 24-25  
Chpt. 24, pp. 439-450  
Assignment 3 due

14 Functional finishes  
Environmental issues, health, safety  
Chpt. 25, pp. 451-474  
Chpt. 27, pp. 501-520  
Assignment 4 due

15 Environmental issues  
Overview – product performance  
Summary and review  
Chpt. 27, pp. 501-520  
Chpt. 28, pp. 521-537

Final Examination  
2 hours, 35%

Distribution of marks

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Attendance Policy

Attendance at lectures is part of being professional as a student. Mutual respect between the professor and students helps to enhance learning and build a positive learning environment. In a new area of study, lectures help to clarify concepts and expand concepts in assigned readings.

Just as your professor comes prepared for your lectures, you as a student are expected to attend class. Random attendance checks will be made each week. In order to have written assignments graded, attendance must be at the 80% level.
Assignments:  (45% of final mark)

1. **Short assignment** (Value 5%)
   Fabric structure
   Student need to demonstrate that they understand how the basic weaves are structured and to chart these weaves on graph paper.
   Assignment: Using strips of colored paper (1/2” in width) illustrate a plain weave, a blanket weave, a 2/2 R twill weave, a 3/1 R twill weave, a satin weave and a sateen weave.
   Finished samples should be about 6 inches square.
   Include a small weaving chart/diagram on graph paper, approximately 2 “ x 2 “.
   Give one example from the Fairchild Books Textile samples of each weaving diagram illustrated.

2. **Short assignment** (Value 10%)
   Fabric structure related to an article of apparel.
   Choose an article of clothing in your wardrobe. Answer the following questions:
   What is the yarn structure?
   What is the fabric structure?
   How is the fabric colored?
   Are there any textile finishes on the article? What possible finishes might be on this article of clothing?
   Where is the garment manufactured?
   Specify the fiber content (from the garment label)
   Is there fabric care information on the label and if not how does a consumer determine how to care for the garment?
   In terms of the textile parameters of durability, aesthetics/appearance, comfort, and safety briefly state why you choose this article for your wardrobe.
   How did you acquire/purchase the item and did price affect your buying decision?

3. 3a **Short assignment** (Value 10%)  Choose Assignment 3 a or 3 b.
   Museum visit to The Ruth Funk Center for Textile Arts
   Pick one museum exhibition that has textile artifacts in the exhibit.
   Identify the title and theme of the exhibit.
   Choose two artifacts and answer the following questions:
   What is the role of the textile artifacts to the theme of the exhibition?
   Try to determine the basic fabric structure. Briefly describe.
   How are the yarns or fabrics colored. Describe briefly.

3b **Short assignment** (value 10%)  Choose Assignment 3 a or 3 b.
Choose an textile article from your near environment or from an activity in which you participate.
What role does the textile component play in the article considered?
Describe the yarns and fabric structure of the article.
What is the fiber content?
Suggest what finishes might be on the article, define the finish, and state how the finish contributes to the final product.
What fabric performance is most important: durability, aesthetics, comfort, safety. Briefly support your choice.
Where is the article manufactured?
4 Short term paper Value (20%)
Choose one textile topic from the class syllabus and write a short term paper on a textile concept relating to this topic. (1200 words)
The papers must have three technical/scientific/academic references chosen from academic journals or scholarly journals.
Some possible topics:
- flammability issue
- second hand clothing industry
- recycling in the textile industry
- an aesthetic finish and how and where it is used in fashionable apparel
- sports apparel for a specific sport
- functional clothing – pick one specific area
- high performance/engineered fiber/fabric – pick one fiber/fabric
- a textile topic related to an exhibition at the Ruth Funk Center for Textile Arts
- geotextiles – one general application i.e. filtration, reinforcement, separation

Individual assignments will be described specifically in a printed handout, given out in class. Written assignments must be typed (12-point Time New Roman font, double-spaced, 1.5 inch (3 cm) side margins) and professional in presentation. Assignments are due at the beginning of class on the date indicated. Late assignments will be deducted 20% for each day late.

When a bibliography is included it must be in a recognized format (e.g. IEEE Citation Style Guide, American Society of Mechanical Engineers Citation Instruction, or the American Psychological Association Citation Manual (APA).