# MINUTES OF THE UNDERGRADUATE CURRICULUM COMMITTEE MEETING
**November 28, 2001**

**Members Present:** Dowling (COA), Finkelstein (PHYS), Ferri (ME), George (Student), Guzdial (COC), Hughes (ECE), Kingsley (PUBP), McIver (REG), McMath (PROVOST), Sankar (AE), Schneider (DCOM)

1. A motion was made to approve the October 17, 2001 and the October 28, 2001 minutes. The motion was seconded and approved. Unanimous.

2. Lakshimi Sankar presented the minutes of the November 8, 2001 Studies Abroad Sub-committee. After discussion, a motion was made to approve the minutes. The motion was seconded and approved. Unanimous.

3. The School of Textile and Fiber Engineering made the following requests:

   a) Change the degree BS in Textile and Fiber Engineering to BS in Polymer and Fiber Engineering. .
   b) Change the course designator from TFE to PTFE.
   c) Revise the Curriculum requirements and approve new courses (Attachments 1 and 2). The revision to the curriculum results in a net reduction in required hours of one credit hour, from 130 to 129.
   d) Blanket substitutions for current students to complete requirements for the BSTFEM BSPTCH and BSTEM.

   A motion was made to approve the changes that were requested. The motion was seconded and approved. Unanimous.

4. The School of Textile and Fiber Engineering requested the approval of a certificate program in Fiber Enterprise Management (Attachment 3). A motion was made to approve the certificate. The motion was seconded and approved. Unanimous.

5. The School of Textile and Fiber Engineering requested the approval of a minor in Fiber Enterprise Management (Attachment 4). A motion was made to approve the request. The motion was seconded and approved.

6. There was a discussion of the policy of petitions/waivers for students with a shortfall in humanities and/or social science credit hour resulting from quarter to semester conversion. After much discussion, the motion was made that for any student who matriculated under the quarter system the social science and humanities requirement would be considered satisfied if the student lacked less that one hour in the area. The student would have to meet the overall credit hour requirement for the degree. The motion was seconded and approved. 9-0-1

7. Chairman Hughes discussed the status of the report from the General Education sub-committee. The Office of Assessment would make a presentation at a future meeting concerning the assessment of the requirements. Hughes also discussed creating a standing sub-committee to deal with changes to the general education requirements.

8. Petitions referred to the full committee by the petitions sub-committee were reviewed. The committee reviewed five petitions, all were approved unless noted:

   1-to withdraw past deadline
   2-to graduate with less than required hours (1 denied)

1-to change "I" grade in ENGL course to "W"
1-to substitute course for course

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Respectfully Submitted,

M. Jo McIver
Registrar

**Attachment 1 – List of Undergraduate PTFE Courses**

| Course Number | Title | Hours | Equivalent To |
|---|---|---|---|
| PTFE 1100 | Introduction to PTFE | (0-3-1) | TFE 1001 |
| PTFE 2200 | Structure of Properties of Fibers/Polymers | (2-3-3) | |
| PTFE 3200 | Yarn and Fabric Formation | (3-0-3) | TFE 3001 |
| PTFE 3210 | Fundamentals of Transport in Polymer/Fiber Processes & Structures | (2-3-3) | TFE 3003 |
| PTFE 3220 | Operations & Mgt Methods | (3-0-3) | TFE 3005 |
| PTFE 3221 | Textile Formation & Testing Lab | (1-3-2) | |
| PTFE 3230 | Polymer & Fiber Processing | (3-0-3) | TFE 4004 |
| PTFE 3720 | Introduction to FEM | (3-0-3) | TFE 1100 |
| PTFE 4020 | Textile Management Internship | (0-3-1) | TFE 4092 |
| PTFE 4043 | Safety & Ethics | (1-0-1) | TFE 4043 |
| PTFE 4100 | Chemical Processing of Textile Materials | (2-0-2) | |
| PTFE 4101 | Carpet Technology | (2-0-2) | TFE 4101 |
| PTFE 4102 | Nonwovens Technology | (2-0-2) | TFE 4102 |
| PTFE 4103 | Knitting Technology | (2-0-2) | TFE 4103 |
| PTFE 4104 | Industrial Textiles | (2-0-2) | |
| PTFE 4105 | Survey of the Apparel Industry | (2-0-2) | TFE 4105 |
| PTFE 4106 | Science of Color | (2-3-3) | |
| PTFE 4107 | Applications of Mechanics of Textile Structures | (2-0-2) | |
| PTFE 4108 | Textile Production Economics: A Global Perspective | (2-0-2) | |
| PTFE 4110 | Polymer & Fiber Engineering Design I | (2-3-3) | TFE 4041 |
| PTFE 4122 | Textile Chemistry Lab | (0-3-1) | TFE 3026 |
| PTFE 4140 | Polymer Solutions & Surfaces | (3-0-3) | |
| PTFE 4141 | Instrumental Methods of Polymer Characterization | (3-3-4) | |
| PTFE 4210 | Polymer & Fiber Engineering Design II | (0-9-3) | TFE 4042 |
| PTFE 4720 | Fiber Processing for Managers | (3-0-3) | |
| PTFE 4721 | Fabric Processing for Color and Performance | (3-0-3) | |
| PTFE 4723 | Properties of Textile Materials | (2-0-2) | TFE 4031 |
| PTFE 4761 | Introduction to Systems & Controls | (2-3-3) | TFE 4761 |
| PTFE 4775 | Polymer Science & Eng I | (3-0-3) | TFE 4775 |
| PTFE 4776 | Polymer Science & Eng II | (2-3-3) | TFE 4776 |
| PTFE 4777 | Introduction to Polymer Science & Eng | (3-0-3) | TFE 4777 |
| PTFE 4791 | Mechanical Behavior of Composites | (3-0-3) | TFE 4791 |
| PTFE 4793 | Composite Materials and Process | (3-0-3) | TFE 4793 |
| PTFE 4794 | Composite Materials and Manufacturing | (3-3-4) | TFE 4794 |

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|---|---|---|---|
| PTFE 4801 | Special Topics in Polymer & Fiber Eng. | (1-0-1) | TFE 4801 |
| PTFE 4802 | Special Topics in Polymer & Fiber Eng. | (2-0-2) | TFE 4802 |
| PTFE 4803 | Special Topics in Polymer & Fiber Eng. | (3-0-3) | TFE 4803 |
| PTFE 4804 | Special Topics in Polymer & Fiber Eng. | (4-0-4) | TFE 4804 |
| PTFE 4901 | Special Problems in Polymer & Fiber Eng. | (1-21) | TFE 4901 |
| PTFE 4902 | Special Problems in Polymer & Fiber Eng. | (1-21) | TFE 4902 |
| PTFE 4903 | Special Problems in Polymer & Fiber Eng. | (1-21) | TFE 4903 |

**Attachment 2 – 8-semester Schedule for BS Polymer & Fiber Engineering Degree**

| **BSPFE with Fiber Track** | | | **BSPFE with Polymer Track** | |
|---|---|---|---|---|
| | | | | |
| **1st Semester Year 1** | | | **1st Semester Year 1** | |
| CHEM 1310 Gen Chem I | 4 | | CHEM 1310 Gen Chem I | 4 |
| MATH 1501 Calc I | 4 | | MATH 1501 Calc I | 4 |
| ENGL 1101 | 3 | | ENGL 1101 | 3 |
| CS 1321 Computer Science | 3 | | CS 1321 Computer Science | 3 |
| PTFE 1100 Intro to PTFE | 1 | | PTFE 1100 Intro to PTFE | 1 |
| | | | HPS 10XX Wellness | 2 |
| | **15** | | | **17** |
| | | | | |
| **2nd Semester Year 1** | | | **2nd Semester Year 1** | |
| MATH 1502 Calc II | 4 | | MATH 1502 Calc II | 4 |
| ENGL 1102 | 3 | | ENGL 1102 | 3 |
| PHYS 2211 Physics I | 4 | | PHYS 2211 Physics I | 4 |
| CHEM 1311 Inorganic Chem I | 3 | | CHEM 1311 Inorganic Chem I | 3 |
| ECON 2100 Economics & Policy | 3 | | ECON 2100 Economics & Policy | 3 |
| | | | | |
| | **17** | | | **17** |
| | | | | |
| **1st Semester Year 2** | | | **1st Semester Year 2** | |
| MATH 2401 Calc III | 4 | | MATH 2401 Calc III | 4 |
| PHYS 2212 Physics II | 4 | | PHYS 2212 Physics II | 4 |
| CEE 2020 Statics & Dynamics | 3 | | CEE 2020 Statics & Dynamics | 3 |
| CHEM 1315 Survey of Organic Chemistry | 3 | | CHEM 2311 Organic Chem I | 3 |
| HIST/POL SCI | 3 | | HIST/POL SCI | 3 |
| | **17** | | | **17** |
| | | | | |
| **2nd Semester Year 2** | | | **2nd Semester Year 2** | |
| MATH 2403 Diff Equations | 4 | | MATH 2403 Diff Equations | 4 |
| ME 3322 Thermodynamics or CHEM 3411 P.Chem I | 3 | | CHEM 3411 P Chem I | 3 |
| PTFE 2200 Struct Prop of Fibers/Polymers | 3 | | PTFE 2200 Struct Prop of Fibers/Polymers | 3 |
| CEE 3030 Strength of Matls | 3 | | CEE 3030 Strength of Matls | 3 |
| LCC 3401 Tech. Comm. Practice | 2 | | CHEM 2312 Organic Chem II | 3 |
| HPS 10XX Wellness | 2 | | | |

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|---|---|---|---|---|
| | **17** | | | **16** |
| | | | | |
| **1st Semester Year 3** | | | **1st Semester Year 3** | |
| MSE 2001 Prin. & Appl. Of Engr Matls | 3 | | MSE 2001 Prin. & Appl. Of Engr Matls | 3 |
| PTFE 4775 Polymer Sci & Eng I | 3 | | PTFE 4775 Polymer Sci & Eng I | 3 |
| ECE 3710 Circuits | 2 | | ECE 3710 Circuits | 2 |
| ECE 3741 ECE Lab | 1 | | ECE 3741 ECE Lab | 1 |
| CEE/MATH/ISYE 3770 Statistics & Apps. | 3 | | CEE/MATH/ISYE 3770 Statistics & Apps. | 3 |
| ISYE 3025 Eng Economy | 1 | | ISYE 3025 Eng Economy | 1 |
| ME 3340 Fluid Mech | 3 | | ME 3340 Fluid Mech | 3 |
| | | | | |
| | **16** | | | **16** |
| | | | | |
| **2nd Semester Year 3** | | | **2nd Semester Year 3** | |
| PTFE 3200 Yarn & Fabric Formation | 3 | | SS Elec | 3 |
| PTFE 3221 Textile Formation & Testing Lab | 2 | | HUM Elec | 3 |
| PTFE 3210 Fund Transport in Polymer/Fiber Processing | 3 | | PTFE 3210 Fund Transport in Polymer/Fiber Processing | 3 |
| PTFE 4776 Polymer Sci & Eng II | 3 | | PTFE 4776 Polymer Sci & Eng II | 3 |
| PTFE 3230 Polymer & Fiber Processing | 3 | | PTFE 3230 Polymer & Fiber Processing | 3 |
| PTFE 3220 Oper & Mgt Methods | 3 | | LCC 3401 Tech. Comm. Practice | 2 |
| | | | | |
| | **17** | | | **17** |
| | | | | |
| **1st Semester Year 4** | | | **1st Semester Year 4** | |
| Approved Elective | 3 | | PTFE 4140 Polymer Sol & Surfaces | 3 |
| PTFE 4100 Chemical Processing of Textile Materials | 2 | | PTFE 4141 Polymer Characterization | 4 |
| PTFE 4122 Textile Chemistry Lab | 1 | | Appoved Electives | 4 |
| PTFE 4110 Design I | 3 | | PTFE 4110 Design I | 3 |
| SS Elective | 3 | | | |
| Ethics Elecive (PST course) | 3 | | | |
| | | | | |
| | **15** | | | **14** |
| | | | | |
| **2nd Semester Year 4** | | | **2nd Semester Year 4** | |
| PTFE 4210 Design II | 3 | | PTFE 4210 Design II | 3 |
| PTFE 4761 Introduction to Systems & Controls | 3 | | PTFE 4761 Introduction to Systems & Controls | 3 |
| HUM Elec | 3 | | Ethics Elective (PST course) | 3 |
| SS Elec | 3 | | SS Elective | 3 |
| Approved Elective | 3 | | Approved Elective | 3 |
| | | | | |
| | **15** | | | **15** |

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|---|---|---|---|---|
| **Total hours for degree** | **127 + 2** | | **Total hours for degree** | **127 + 2** |

**Attachment 3 – Certificate Program in Fiber Enterprise Management**

A certificate program at Georgia Tech must have at least 12 hours. We plan to market this certificate program to the Dupree College of Management students and the Industrial Engineering students at Georgia Tech. Scholarship funding for these external majors will be included as part of the attraction packages. These students will provide students to the textile and fabricated products industries.

The School of Textile & Fiber Engineering at Georgia Tech will provide up to 25 scholarships per year to Dupree College of Management majors who wish to pursue a formal Certificate in Fiber Enterprise Management. These scholarships are awarded competitively to students who take a series of four designed courses that provide the specialized knowledge base necessary for managing a modern enterprise in the Fiber/Textile/Fabricated Products (FTFP) Industrial Complex. Applicants are expected to commit to complete the full, four-course sequence on acceptance into the program. These courses may be used as Free Electives toward one of the DCOM mainstream degrees, and thus will not increase the total number of hours required for the primary degree.

These awards are given to encourage excellence in management principles and specialized knowledge of specifics of the nation's fiber-based industries and inherent manufacturing processes. Students who complete this certificate will be well prepared to compete for prime, numerous management positions in the U. S. FTFP Complex (over 25,000 companies and 1.8 MM direct employees), as well as in supporting industries. The complex is the largest manufacturing industry in the U. S., is centered in the Southeast, and provides excellent and diverse career employment opportunities for new graduates at high salary levels. Many Fortune 500 companies are members of this complex, e.g., E. I. DuPont Corp., Milliken Co. and Shaw Ind.

**Course requirements**:
Courses that must be taken to qualify for the scholarship and certificate are:
1. PTFE 3720 Introduction to the Fiber Enterprise
2. PTFE 4720 Fiber Processing for Managers or PTFE 3200 Yarn & Fabric Formation
3. PTFE 4721 Fabric Processing for Color and Performance or PTFE 4100 Chemical Processing of Textile Materials
4. PTFE 3220 Fiber Operations & Management

1. Introduction to the Fiber Enterprise (PTFE 3720, Spring Sem. of Junior year)
This course approaches the manufacture of engineered fibrous structures from a manager's viewpoint. The student will receive a working knowledge and understanding of the various processes in manufacturing fibers and fibrous structures from yarns to fiber optics for telecommunications. Plant trips and guest lectures from industry representatives will enhance understanding.

2. Fiber Processing for Managers (PTFE 4720)
This course will give the student the fundamental understanding of the processing of fibers into engineered structures such as yarns and fabrics (woven, knitted, tufted & nonwoven). Medical products to spacesuits will be discussed.

3. Fabric Processing for Color and Performance (PTFE 4721)
Aesthetic and/or physical properties of engineered fibrous structures are changed dramatically by chemical treatments including coloration. The student will receive a basic understanding of the various processes that provide fabrics a silky feel to dazzling colors.

4. Fiber Operations & Management Methods (PTFE 3220)
The management of fiber conversion operations has its unique aspects in relation to specific processing equipment. The student will see the integration of flow-control, planning and Quality Management in various fiber conversion processes.

**Requirements and Standards**

1. Certificates will be granted only to students who, in addition to the certificate program requirements, have satisfied requirements for an undergraduate degree.

2. Courses required by course name and number in a student's program of study may not be credited by that student toward any certificate.

3. Courses counting toward a certificate must be taken on a letter grade basis, and a grade of C or better must be received in each course.

**Attachment 4 – Minor Program in Fiber Enterprise Management**

A certificate program at Georgia Tech must have at least 18 hours. We plan to market this minor program to the Dupree College of Management students and the Industrial Engineering students at Georgia Tech. Scholarship funding for these external majors will be included as part of the attraction packages. These students will provide students to the textile and fabricated products industries.

The School of Textile & Fiber Engineering at Georgia Tech will provide up to 25 scholarships per year to Dupree College of Management majors who wish to pursue a formal Minor in Fiber Enterprise Management. These scholarships are awarded competitively to students who take a series of four designed courses that provide the specialized knowledge base necessary for managing a modern enterprise in the Fiber/Textile /Fabricated Products (FTFP) Industrial Complex. Applicants are expected to commit to complete the full, 19 hours on acceptance into the program. These courses may be used as Free Electives toward one of the DCOM mainstream degrees or the Free Electives in the BS IE degree program.

These awards are given to encourage excellence in management principles and specialized knowledge of specifics of the nation's fiber-based industries and inherent manufacturing processes. Students who complete this certificate will be well prepared to compete for prime, numerous management positions in the U. S. FTFP Complex (over 25,000 companies and 1.8 MM direct employees), as well as in supporting industries. The complex is the largest manufacturing industry in the U. S., is centered in the Southeast, and provides excellent and diverse career employment opportunities for new graduates at high salary levels. Many Fortune 500 companies are members of this complex, e.g., E. I. DuPont Corp., Milliken Co. and Shaw Ind.

**Course requirements for the Minor**:

- PTFE 3720 (3-0-3) Introduction to the Fiber Enterprise
- PTFE 4720 (3-0-3) Fiber Processing for Managers
  or PTFE 3200 Yarn & Fabric Formation
- PTFE 4721 (3-0-3) Fabric Processing for Color and Performance
  or PTFE 4100 Chemical Processing of Textile Materials
- PTFE 3220 (3-0-3) Fiber Operations & Management
- PTFE 4723 (2-0-2) Properties of Textile Materials
  or PTFE 2200 (2-3-3) Structure & Properties of Fibers/Polymers
- PTFE 3221 (1-3-2) Textile Formation & Testing Laboratory
- PTFE 4122 (0-3-1) Chemical Processing Laboratory

- PTFE 4108 (2-0-2) Textile Production Economics: A Global Perspective

Total hours required = 19

**Notes:**

1. All courses counting toward the minor must be taken on a letter grade basis and must be completed with an overall grade point average of at least 2.0.

2. Courses required by name and number in a student's major degree program may not be used in satisfying the course requirements for a minor.

3. Courses used in a minor may also be used to fulfill area requirements (free electives, technical electives, social science electives, humanities electives, etc.) as approved by the student's major school.

4. A student may have no more than two minors.

5. A student may select a minor in consultation with the advisor in the major field. The student should then consult an advisor in the minor field, who can inform the student of any remaining requirements. When the student petitions for a degree, he/she should complete a petition for a minor and have it approved by the minor advisor. The petition for a minor will accompany the petition for the major degree when reviewed and approved by the major school. The two forms are then submitted to the Registrar. The minor will be conferred at the same time the degree is conferred and the degree and minor will be recorded on the student's transcript. The minor will not be on the diploma. Minors may not be conferred retroactively upon students who have graduated.