Fiber Science 

The requirements listed below pertain to all students matriculating in August 2014 and January 2015.

I. Distribution Requirements

A. Natural Sciences
Choose one of the following sequences:
CHEM 1560 – 2080 General Chemistry
CHEM 2070 – 2080 General Chemistry
CHEM 2090 Engineering General Chemistry – 2080 General Chemistry
CHEM 2150 – 2160 Honors General and Inorganic Chemistry

B. Social Sciences
I.B.1 HD 1150 Human Development: Infancy and Childhood OR
HD 1170 Human Development: Adolescence and Emerging Adulthood OR
PSYCH 1101 Introduction to Psychology AND
I.B.2. ECON 1110 Introductory Microeconomics

C. Humanities
Includes literature, history (including art and design history), philosophy, religion, and archaeology. Critical, historical, and theoretical studies of the arts and design are considered humanities. Languages and creative or performing arts such as the writing of fiction or poetry, painting, sculpting, designing, composing or performing music, acting, directing, and dance are not considered humanities.

D. Written Communications
Must be First-Year Writing Seminars

E. Quantitative and Analytical
a. Either Statistics or Calculus must be taken at Cornell unless you have earned a score of 3 or higher on AP Calculus BC.
b. Once the above requirement is met, other AP credit from Calculus AB (a score of 3 or higher) or Statistics (a score of 4 or 5) may be applied to the Quantitative and Analytical requirement if the content is not overlapping.

I.E.1. Statistics
Choose one of the following:
AEM 2100, BTRY 3010, BTRY 6010, ILRST/STSCI 2100, MATH 1710, PAM 2100, PSYCH 3500, ENGRD 2700

I.E.2. Calculus
Choose one of the following sequences:
MATH 1110 – 1120
MATH 1110 – 1220
MATH 1910 – 1920 (preferred)

F. Additional credits

I.F.1. Organic Chemistry
CHEM 3570 – 3580 AND 2510

I.F.2. Choose one of the following sequences:
PHYS 1101 – 1102
PHYS 1112 – 2213
PHYS 2207 – 2208

I.F.3. Choose one of the following sequences:
CHEM 2870 – 2880 Introductory Physical Chemistry
CHEM 3890 – 3900 Honors Physical Chemistry
MSE 2610 Mechanical Properties of Materials: From Nanodevices to Superstructures AND
MSE 3010 Materials Chemistry
BIOG 1107 Introductory Biology I: From Atom to Cell (summer only) AND
BIOG 1108 Introductory Biology II: From Cell to Biosphere (summer only)
BIOG 1500 Investigative Biology Laboratory AND
Choose two out of three from the following lecture options:
(a) BIOMG 1350 Principles of Cell and Development Biology
(b) BIOG 1440 Intro. to Comparative Physiology OR BIOG 1445 Autotutorial Physiology
(c) BIOEE 1610 Ecology and the Environment

DEA 3250 Human Factors: Ergonomics/Anthropometrics AND
DEA 4520 Applied Anatomy and Biomechanics for Ergonomic Design

1.F.4. Ethics/Sustainability: Choose one course from the following:
BEE 3299 Sustainable Development: A Web-Based Course
BSOC 2051 Ethical Issues in Health and Medicine (also STS 2051)
BSOC 2061 Ethics and the Environment (also STS 2061, PHIL 2460)
CRP 3011 Ethics, Development and Globalization
DEA 4220 Ecological Literacy and Design (also ARCH 4601)
DSOC 3240 Environment and Society
GOVT 4971 Ethics in International Relations
IARD 4020/6020 Agriculture in Developing Nations I/International Agriculture in Developing Nations

Credits

I.F.4. Ethics/Sustainability continued
ILRLR 4820 Ethics at Work
LA 4950 Green Cities: The Future of Urban Ecology (also CRP 3840)
NTRES 3320 Introduction to Ethics and the Environment
NTRES 4310 Environmental Strategies
PAM 5520 Health Care Services: Consumer & Ethical Perspectives
PHIL 1450 Contemporary Moral Issues
PHIL 2410 Ethics
PHIL 2440 Ethics
PHIL 2450 Ethics and Health Care

II. Requirements in the Major 25-26

A. Must take the following:
   FSAD 1350 Fibers, Fabrics, and Finishes
   FSAD 1360 Fiber and Yarn Analysis Laboratory
   FSAD 2370 Structural Fabric Design
   FSAD 3320 Product Quality Assessment
   FSAD 3350 Fiber Science
   FSAD 4360 Fiber Chemistry
   FSAD 4660 Textiles, Apparel, and Innovation

Choose one of the following:
   BEE 1510 Introduction to Computer Programming
   CS 1110 Introduction to Computing Using Java
   CS 1112 Introduction to Computing Using MATLAB
   CS 1300/INFO 1300 Introductory Design and Programming for the Web
   FSAD 1140 Introduction to Computer-Aided Design

Choose one of the following:
   FSAD 4390 Biomedical Materials and Devices for Human Body Repair
   FSAD 6160 Rheology of Solids: Dynamic Mechanical Analysis of Fibers and Polymers
   FSAD 6200 Physical Properties of Fiber – Forming Polymers and Fibers
   FSAD 6260 The Chemistry of Textile Finishes and Dyeing
   FSAD 6660 Fiber Formation: Theory and Practice

III. Electives Variable Credit

Recommended:
   Human Ecology Distribution (9 credits)
   Foreign Language
   COMM 2010 Oral Communication
   HADM 3650 Managerial Communication II

IV: Physical Education 2

Physical Education must be completed in order to graduate. However, physical education does not count toward college and university minimum credit requirements for full-time status, nor does it count towards the 120 credits required for graduation.

Total Credits (exclusive of PE) 120

College Requirements:

- Students must complete a minimum of 9 HUMEC credits outside of FSAD. These credits are given for any Human Ecology course outside your major from Category I, II, or III. These can be taken S/U only if course is NOT used to fulfill a curriculum requirement.

- Students must complete a minimum of 43 HUMEC credits. Hum Ec credits are given in Category I (distribution), Category II (in your major) and Category III (electives).

- Biology & Society (BSOC) courses do not count as Human Ecology credit or towards the 9 HE credits outside the major.

- Pass/Fail Courses [S/U]
  - S/U grading option may NOT be used for any required course [i.e., distribution requirements in Category I or major courses in Category II] unless it is the only grade option offered for those courses.
  - S/Us MAY be used for the 9 credits of Human Ecology coursework outside of the major and for electives in Category III.
  - Students may apply no more than 12 credits of S/U towards graduation requirements. If a required course is only offered S/U, it will not count towards this limit. Students may take more S/Us if they choose, but the additional credit will not be applied towards graduation.
  - The deadline for changing grade options is 7 weeks after the start of classes, the same as the “drop” deadline.

- Special Study Courses [4000, 4010, 4020, 4030]
  - A total of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 graduation credit requirement. [Additional credits can be taken but will not be applied.]
  - A maximum of three credits of 4000-4020 (not including 4030) may count towards the “credit outside the major” category as long as the special study is in a department outside the student’s major.
  - Students cannot TA (4030) the same course for credit more than once or take and TA the same course simultaneously. 4030 does not fulfill any requirements towards the major. Registration for 4030 may not exceed 5 credit hours per semester.

- Students must complete 120 credits overall, exclusive of physical education and “00” courses.
- Elective credits can be earned in Human Ecology or elsewhere.