

Fiber Science

2019-2020

The requirements listed below pertain to all students matriculating in August 2019 and January 2020.

All of the following sections are required to be completed to graduate.

Courses in areas 1-15 must be taken for a Letter Grade.

Overall Credits (REQUIRED)		
Total: 120 credits	Human Ecology: 43 credits	Human Ecology, outside the major: 9 credits (from DEA, HD, NS, PAM at any level or HE at the 3000/4000 level)

1. Fiber Science Core Courses (20 credits)

Take **all** of the following:

- FSAD 1111** Success in FSAD
- 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

2. FSAD Introductory Courses (3 credits)

Choose **one** of the following:

- FSAD 1140** Fashion CAD
- FSAD 1250** Fashion, Art and Design Thinking
- FSAD 2190** Fashion, Aesthetics and Society
- FSAD 2310** Fashion Product Management
- FSAD 3250** Color and Surface Design of Textiles

3. FSAD Advanced level Course work (3 credits)

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** Chemistry of Textile Finishes and Dyeing
- FSAD 6390** Properties of Fibrous Systems
- FSAD 6660** Fiber Formation: Theory and Practice

4. Computer Science (3 credits)

Choose **one** of the following:

- CS 1110** Introduction to Computing Using Python
- CS 1112** Introduction to Computing Using MATLAB
- CS 1300** Introductory Design and Programming for the Web (*also INFO 1300*)

If you have a score of 5 on AP Computer Science, then you may substitute one of the following upper level courses:

- CS 2110** Object-Oriented Programming and Data Structures
- CS 2300** Intermediate Design and Programming for the Web
- INFO 2950** Introduction to Data Science

5. Introductory Chemistry (8 credits)

Choose **one** of the following sequences:

- (a) **CHEM 2070** and **CHEM 2080** General Chemistry I and II
- (b) **CHEM 2090** Engineering General Chemistry* and **CHEM 2080** General Chemistry II
(*requires written permission from the Chemistry Office of Undergraduate Studies)

6. Organic Chemistry Lecture and Laboratory (8 credits)

Take **all** of the following:

- CHEM 3570** Introductory Organic Chemistry
- CHEM 3580** Introductory Organic Chemistry
- CHEM 2510** Introduction to Experimental Organic Chemistry

7. Physics (8 credits)

Choose **one** of the following sequences:

- (a) **PHYS 1101-1102** General Physics I and II
- (b) **PHYS 1112-2213** Physics I: Mechanics & Heat and Physics II: Electromagnetism
- (c) **PHYS 2207-2208** Fundamentals of Physics I and II

8. Additional Science Sequence (6-8 credits)

Choose from **one** of the following sequences:

Biology sequence		
BIOG 1500 Investigative Biology Laboratory AND Choose two out of three from the following lecture options: (a) BIOMG 1350 Introductory Biology: Cell and Developmental Biology (b) BIOG 1440 Introductory Biology: Comparative Physiology OR BIOG 1445 Autotutorial Physiology (c) BIOEE 1610 Introductory Biology: Ecology and the Environment		
Fashion Design sequence		Design and Environmental Analysis sequence
FSAD 1450 Introduction to Fashion Design AND Choose one from the following options: (a) FSAD 2660 Activewear Design and Product Development (b) FSAD 6900 Functional Aspects of Design and Clothing		Choose two out of three from the following options: DEA 1500 Introduction to Environmental Psychology DEA 2500 Environmental and Social Behavior DEA 3510 Ergonomics and Anthropometrics
Physical Chemistry sequence	Honors Physical Chemistry sequence	Materials Chemistry sequence
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

9. First Year Writing Seminars (6 credits)

Note: The **2 required first year writing seminar courses** must be completed during the first two semesters at Cornell.

10. Human Development or Psychology (3 credits)

Choose **one** of the following courses:

- HD 1150** Human Development: Infancy and Childhood
- HD 1170** Adolescence and Emerging Adulthood
- PSYCH 1101** Introduction to Psychology

11. Introductory Microeconomics (3 credits)

ECON 1110 Introductory Microeconomics

12. Humanities (3-4 credits)

Choose any course with Course Distribution HA, LA, or CA.

13. Statistics (4 credits)

Must be taken at Cornell, AP Statistics is not accepted

Choose **one** of the following:

- PAM 2100** Introduction to Statistics
- AEM 2100** Introductory Statistics
- ILRST/STSCI 2100** Introductory Statistics
- PSYCH 2500** Statistics and Research Design
- BTRY 3010** Biological Statistics I
- MATH 1710** Statistical Theory and Application in the Real World
- ENGRD 2700** Basic Engineering Probability and Statistics

14. Calculus/Advanced Math (8 credits)

Choose **one** of the following sequences:

- (a) **MATH 1110-1120** Calculus I and II
- (b) **MATH 1110-1220** Calculus I and Theoretical Calculus II
- (c) **MATH 1910-1920** Calculus for Engineers and Multivariable Calculus for Engineers

Note: A score of 4 or 5 on AP Calculus AB fulfills the Calculus I requirement; a score of 4 or 5 on AP Calculus BC fulfills Calculus I and II requirements.

15. Ethics/Sustainability (3-4 credits)

Choose from **one** of 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

CRP 3840 Green Cities

DEA 1200 Art + Science: Sustainability, Multiculturalism and Transdisciplinarity

DEA 4220 Ecological Literacy and Design (also ARCH 4601)

DSOC 3240 Environmental Sociology

FSAD 4021/6021 Apparel and Textiles in Developing Nations I/Apparel and Textiles in Developing Nations II

INFO 1200 Information Ethics, Law, and Policy

NTRES 3310 Sustainability Science

NTRES 3320 Introduction to Ethics and Environment

PAM 3670 Economics and Environmental Policy

PHIL 1450 Contemporary Moral Issues

PHIL 2410 Ethics

16. Electives (Variable)

Any courses that are not taken in Areas 1-15 above, count as Electives.

17. Physical Education Requirement (2 courses)

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.

18. Swim Test Requirement

A successful swim test must be completed in order to graduate.

College Polices:

• 120 Overall Credits

- Students must complete 120 credits toward graduation.
- A maximum of 15 credits of AP credit and in absentia credit can count towards the 120 total credits.
- 15 credits of Study Abroad/Exchange and Cornell-In-Washington or 12 credits of Capital Semester can count towards total electives.

• 43 HE Credits

- Students must complete a minimum of 43 HE credits.
- HE non-departmental courses at the 2000-level and below do not count toward the 43 HE credits.
- Students must complete 5 HE credits by the end of the freshmen year and 12 HE credits by the end of the sophomore year.

• 9 HE Credits outside the major

- Students must complete a minimum of 9 HE credits outside of FSAD. These credits are given for any Human Ecology course outside your major (except 4030). These can be taken S/U only if course is NOT used to fulfill a curriculum requirement.

• Pass/Fail Courses [S/U]

- S/U grading option may NOT be used for any required course [Areas 1-15] unless it is the only grade option offered for those courses.
- S/Us MAY be used for the 9 HE Credits outside the major and for electives in Area 16.
- 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 the 57th calendar day of the semester**, the same as the “drop” deadline.

• Special Study Courses [4000, 4010, 4020, 4030]

- A maximum of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 overall credits. Courses will be indicated on the class roster with a Component of either IND or RSC. [Additional credits can be taken but will not be applied.]
- A maximum of 12 credits of 4000-4030 may count toward the 43 HE credit requirement.
- A maximum of 3 credits of 4000-4020 (not including 4030) may count towards the 9 HE credits outside the major requirement 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.