**FIBER & POLYMER SCIENCE (FPS)**

*College of Agricultural & Environmental Sciences*

**FPS 100 — Principles of Polymer Materials Science (3 units)**

*Course Description*: Basic principles of polymer science are presented including polymer structure and synthesis; polymerization mechanisms, polymer classes, properties, and reactions; polymer morphology, rheology, and characterization; polymer processing.

*Prerequisite(s)*: CHE 002A; CHE 002B; ((CHE 008A, CHE 008B) or (ENG 045 or ENG 045Y)); Introductory physics.

*Learning Activities*: Lecture 3 hour(s).

*Grade Mode*: Letter.

*General Education*: Science & Engineering (SE); Quantitative Literacy (QL).

**FPS 110 — Plastics in Society & the Environment (4 units)**

*Course Description*: Basic concepts and methodologies in the study of plastics. Formation, classification, structure, properties, processing, and formulation. Their application to societal needs, and their impact on society and the environment.

*Prerequisite(s)*: CHE 010; or introductory course in physical sciences.

*Learning Activities*: Lecture 3 hour(s), Discussion 1 hour(s).

*Grade Mode*: Letter.

*General Education*: Science & Engineering (SE) or Social Sciences (SS); Scientific Literacy (SL); Writing Experience (WE).

**FPS 150 — Polymer Syntheses & Reactions (3 units)**

*Course Description*: Organic and physical chemistry aspects of polymer syntheses and reactions including polymerization mechanisms, kinetics and thermodynamics for major types of organic high polymers.

*Prerequisite(s)*: CHE 128B or CHE 008B; CHE 107A.

*Learning Activities*: Lecture 3 hour(s).

*Grade Mode*: Letter.

*General Education*: Science & Engineering (SE) or Oral Skills (OL); Quantitative Literacy (QL); Scientific Literacy (SL); Visual Literacy (VL); Writing Experience (WE).

**FPS 161 — Structure & Properties of Fibers (3 units)**

*Course Description*: Structure, properties and reactions of natural- and man-made fibers; the relations between molecular structure of fibers and their physical properties; interactions of fibers and detergents.

*Prerequisite(s)*: TXC 006; CHE 008B.

*Learning Activities*: Lecture 3 hour(s).

*Grade Mode*: Letter.

*General Education*: Science & Engineering (SE) or Oral Skills (OL); Quantitative Literacy (QL); Scientific Literacy (SL); Visual Literacy (VL); Writing Experience (WE).

**FPS 161L — Textile Chemical Analysis Laboratory (1 unit)**

*Course Description*: Laboratory methods and procedures employed in qualitative and quantitative analysis of textile fibers and auxiliaries.

*Prerequisite(s)*: FPS 161 (can be concurrent).

*Learning Activities*: Laboratory 3 hour(s).

*Grade Mode*: Letter.

*General Education*: Science & Engineering (SE); Oral Skills (OL); Quantitative Literacy (QL); Scientific Literacy (SL); Visual Literacy (VL); Writing Experience (WE).

**FPS 180A — Introduction to Research in Fiber & Polymer Science (2 units)**

*Course Description*: Senior thesis on independent problems. Research begun in TXC 180A and completed in TXC 180B.

*Prerequisite(s)*: Consent of instructor; senior standing in major related to Fiber and Polymer Science.

*Learning Activities*: Lecture/Discussion 6 hour(s).

*Grade Mode*: Letter.

*General Education*: Science & Engineering (SE); Quantitative Literacy (QL); Visual Literacy (VL); Writing Experience (WE).

**FPS 180B — Introduction to Research in Fiber & Polymer Science (2 units)**

*Course Description*: Senior thesis on independent problems. Research begun in TXC 180A and completed in TXC 180B.

*Prerequisite(s)*: Consent of instructor; senior standing in major related to Fiber and Polymer Science.

*Learning Activities*: Lecture/Discussion 6 hour(s).

*Grade Mode*: Letter.

*General Education*: Science & Engineering (SE); Quantitative Literacy (QL); Visual Literacy (VL); Writing Experience (WE).

**FPS 192 — Internship in Fiber & Polymer Science (1-12 units)**

*Course Description*: Work experience off campus in a fiber and polymer science related area. Supervision by a member of the Textiles and Clothing faculty.

*Prerequisite(s)*: Consent of instructor.

*Learning Activities*: Internship 3-36 hour(s).

*Grade Mode*: Pass/No Pass only.

**FPS 197T — Tutoring in Fiber & Polymer Science (1-5 units)**

*Course Description*: Tutoring of students in Fiber & Polymer Science courses. Assistance with discussion groups and laboratory sections under supervision of instructor.

*Prerequisite(s)*: Consent of instructor; upper division fiber and polymer science related major.

*Learning Activities*: Tutorial 3-15 hour(s).

*Repeat Credit*: May be repeated if tutoring in another Fiber & Polymer Science course.

*Grade Mode*: Pass/No Pass only.

**FPS 198 — Directed Group Study (1-5 units)**

*Course Description*: Group study.

*Prerequisite(s)*: Consent of instructor.

*Learning Activities*: Variable.

*Grade Mode*: Pass/No Pass only.
Fiber & Polymer Science (FPS)

**FPS 199 — Special Study for Advanced Undergraduates**
*(1-5 units)*

*Course Description:* Special study.
*Prerequisite(s):* Consent of instructor; upper division standing.
*Learning Activities:* Variable.
*Grade Mode:* Pass/No Pass only.

**FPS 250A — Special Topics in Polymer & Fiber Science**
*(3 units)*

*Course Description:* Selected topics of current interest in polymer and fiber sciences. Topics vary each time course is offered.
*Prerequisite(s):* FPS 100; or consent of instructor.
*Learning Activities:* Lecture 3 hour(s).
*Cross Listing:* EMS 250A.
*Grade Mode:* Letter.

**FPS 250B — Special Topics in Polymer & Fiber Science**
*(3 units)*

*Course Description:* Selected topics of current interest in polymer and fiber sciences. Topics vary each time course is offered.
*Prerequisite(s):* FPS 100; or consent of instructor.
*Learning Activities:* Lecture 3 hour(s).
*Cross Listing:* EMS 250B.
*Grade Mode:* Letter.

**FPS 250E — Special Topics in Polymer & Fiber Science**
*(3 units)*

*Course Description:* Selected topics of current interest in polymer and fiber sciences. Topics vary each time course is offered.
*Prerequisite(s):* FPS 100; or consent of instructor.
*Learning Activities:* Lecture 3 hour(s).
*Cross Listing:* EMS 250E.
*Grade Mode:* Letter.

**FPS 299 — Research** *(1-12 units)*

*Course Description:* Research.
*Learning Activities:* Independent Study 3-36 hour(s).
*Grade Mode:* Satisfactory/Unsatisfactory only.

**FPS 396 — Teaching Assistant Training Practicum** *(1-4 units)*

*Course Description:* Teaching assistant, training practicum.
*Prerequisite(s):* Graduate standing.
*Learning Activities:* Variable.
*Repeat Credit:* May be repeated.
*Grade Mode:* Pass/No Pass only.