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).
Cross Listing: EMS 147.
Grade Mode: Letter.
General Education: Science & Engineering (SE); Quantitative Literacy (QL).

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

Starting Fall Quarter 2026, this course is no longer offered.
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)

Starting Fall Quarter 2026, this course is no longer offered.
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); Oral Skills (OL); Quantitative Literacy (QL); Scientific Literacy (SL); Visual Literacy (VL); Writing Experience (WE).

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

Starting Fall Quarter 2026, this course is no longer offered.
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); Oral Skills (OL); Quantitative Literacy (QL); Scientific Literacy (SL); Visual Literacy (VL); Writing Experience (WE).

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

Starting Fall Quarter 2026, this course is no longer offered.
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)

Starting Fall Quarter 2026, this course is no longer offered.
Course Description: Senior thesis on independent problems. Research begun in TXC 180A continued 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)

Starting Fall Quarter 2026, this course is no longer offered.
Course Description: Senior thesis on independent problems. Research begun in TXC 180A continued 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)

Starting Summer Session 1 2027, this course is no longer offered.
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)

Starting Summer Session 1 2027, this course is no longer offered.
Course Description: Group study.
Prerequisite(s): Consent of instructor.
Learning Activities: Variable.
Grade Mode: Pass/No Pass only.

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

Starting Summer Session 1 2027, this course is no longer offered.
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)

Starting Winter Quarter 2027, this course is no longer offered.
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)

Starting Winter Quarter 2027, this course is no longer offered.
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)

Starting Winter Quarter 2027, this course is no longer offered.
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)

Starting Summer Session 1 2027, this course is no longer offered.
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)

Starting Fall Quarter 2026, this course is no longer offered.
Course Description: Teaching assistant, training practicum.
Prerequisite(s): Graduate standing.
Learning Activities: Variable.
Repeat Credit: May be repeated.
Grade Mode: Pass/No Pass only.