

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)

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); 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); 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 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)

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)

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.

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.