FOREST AND SUSTAINABLE PRODUCTS (FSP)

FSP 1010 Introduction to Forest and Sustainable Products (2 credits)
Examination of the forest and sustainable materials industries and bioenergy products. Discovery laboratory in the use of forest and sustainable materials, including waste streams, to create marketable products. One lecture and one three-hour lab per week.

FSP 2010 Forest and Sustainable Products for a Green Planet (3 credits)
This course is designed to help students understand how forest and sustainable products contribute to sustainability from an environmental, social, and economic point of view. Specifically, the course introduces various bioproducts derived from forest, plant, agriculture, and marine sources that could meet increasing human beings' daily needs, which range from clothing, food, shelter, and transportation to bioenergy, bioplastics, and bioproducts that help combat environmental pollutions (i. e. , plastic pollution) while extending the carbon storage in the built environment. The course also covers how biobased sustainable alternatives affect human physical and mental health, as well as the social, environmental, and economic effects and benefits of these biobased alternative solutions. Course also addresses impacts of sustainable use natural resources on society and introduces green jobs by exploring forest and sustainable products careers. Typically Offered: Fall.

FSP 2030 (s) Workshop (1-16 credits, max 99)
Credit arranged

FSP 2040 (s) Special Topics (1-16 credits, max 99)
Credit arranged

FSP 2990 (s) Directed Study (1-16 credits, max 99)
Credit arranged

FSP 3010 Properties of Forest and Sustainable Products (3 credits)
Physiology, structure, and physical and mechanical properties of wood and other natural cellulosic fibers.

FSP 4000 (s) Seminar (1-16 credits, max 99)
Credit arranged

FSP 4030 (s) Workshop (1-16 credits, max 99)
Credit arranged

FSP 4040 (s) Special Topics (1-16 credits, max 99)
Credit arranged

FSP 4050 (s) Professional Development (1-16 credits, max 99)
Credit arranged. Credit earned in this course will not be accepted toward graduate degree programs.
Prereqs: Permission

FSP 4110 Undergraduate Research (1-3 credits, max 3)
Directed undergraduate research at the upper division level.
Prereqs: Junior or Senior standing.

FSP 4250 Forest Products Marketing (3 credits)
Introduction to business-to-business and industrial marketing management from a forest products perspective in domestic and international markets, including marketing research and contemporary issues within the industry. Typically Offered: Fall and Spring.

FSP 4360 Biocomposites (3 credits)
Joint-listed with FSP 5360
Raw material, processes, properties, and their applications for a number of natural fiber and wood composites made of veneers, particles, and fibers. Additional projects and assignments required for graduate credit. Two half-day field trips. Two lectures and one 3-hour lab per week. Typically Offered: Fall.
Prereqs: CHEM 1101 and FSP 3010; and CHEM 2750 or CHEM 2770

FSP 4380 Lignocellulosic Biomass Chemistry (1 credit)
The chemistry of lignocellulosic fiber (natural fiber and wood) formation and structure. Two lectures a week for the first half of the semester. Typically Offered: Varies.
Prereqs: CHEM 1101 or CHEM 1111; and CHEM 2750 or CHEM 2770
Cooperative: open to WSU degree-seeking students.

FSP 4440 Primary Forest Products Manufacturing (3 credits)
Raw materials, procurement, production methods, drying product specifications, and grading for primary products made from wood and cellulosic fiber including lumber, plywood, poles, and energy products; plant layout, machines, and systems analysis; plant tours. Two lectures and one 5-hour lab per week. Typically Offered: Varies.
Prereqs: FSP 3010

FSP 4500 Biomaterials Deterioration and Protection (3 credits)
Joint-listed with FSP 5500
Biotic and abiotic agents that deteriorate biomaterials; biocidal and nonbiocidal methods used to protect biomaterials from deterioration; biodegradable materials and their applications. Additional projects and assignments required for graduate credit. Two one-hour lectures and one three-hour lab per week. Recommended preparation: FSP 3010. Typically Offered: Varies.
Prereqs: Permission

FSP 4730 ECB Senior Presentation (1 credit)
General Education: Capstone Experience
Cross-listed with FISH 4730, FOR 4730
, NRS 4730, REM 4730, WLF 4730. Reporting and presenting the senior project (thesis or internship); taken after or concurrently with REM 4970. Serves as the senior capstone course for Ecology and Conservation Biology (ECB).
Prereqs: Instructor Permission

FSP 4910 Biomaterial Product and Process Development Lab (2 credits)
General Education: Capstone Experience
Lab to accompany FSP 4950. One 3-hour lab per week. Typically Offered: Spring.
Prereqs: ECON 2201 or ECON 2202; and FSP 4950.

FSP 4950 Product Development and Brand Management (3 credits)
General Education: Capstone Experience
Cross-listed with MKTG 4950
This course examines product development strategy and the management of brands. Topics will include strategic intent of product development, the process of product development (ideation through post-product launch evaluation), market and financial feasibility of product development, trends in product development, and managing brands (strategic brand management and managing brand equity). Typically Offered: Fall, Spring and Summer.
Prereqs: ECON 2201, ECON 2202, or ECON 2720 Prereqs or
Coreqs: MKTG 3210

FSP 4980 Forest and Sustainable Products Internship (1-16 credits, max 99)
Credit arranged. Supervised field experience with an appropriate organization. Graded Pass/Fail.

FSP 4990 (s) Directed Study (1-16 credits, max 99)
Credit arranged. For the individual student; conferences, library, field, or lab work.

FSP 5000 Master's Research and Thesis (1-16 credits, max 99)
Credit arranged

FSP 5010 (s) Seminar (1-16 credits, max 99)
Credit arranged. Major philosophy, management, and research problems of forest products industries; presentation of individual studies on assigned topics.
Prereqs: Permission

FSP 5020 (s) Directed Study (1-16 credits, max 99)
Credit arranged

FSP 5030 (s) Workshop (1-16 credits, max 99)
Credit arranged. Selected topics in the conservation and management of natural resources.
Prereqs: Permission

FSP 5040 (s) Special Topics (1-16 credits, max 99)
Credit arranged

FSP 5050 (s) Professional Development (1-16 credits, max 99)
Credit arranged. Credit earned in this course will not be accepted toward graduate degree programs.
Prereqs: Permission

FSP 5360 Biocomposites (3 credits)
Joint-listed with FSP 4360
Raw material, processes, properties, and their applications for a number of natural fiber and wood composites made of veneers, particles, and fibers. Additional projects and assignments required for graduate credit. Two half-day field trips. Two lectures and one 3-hour lab per week. Typically Offered: Fall.

FSP 5380 Lignocellulosic Biomass Chemistry (1 credit)
Joint-listed with FSP 4380
The chemistry of lignocellulosic fiber (natural fiber and wood) formation and structure. Two lectures a week for the first half of the semester. Typically Offered: Varies. Cooperative: open to WSU degree-seeking students.

FSP 5500 Biomaterials Deterioration and Protection (3 credits)
Joint-listed with FSP 4500
Biotic and abiotic agents that deteriorate biomaterials; biocidal and nonbiocidal methods used to protect biomaterials from deterioration; biodegradable materials and their applications. Additional projects and assignments required for graduate credit. Two one-hour lectures and one three-hour lab per week. Recommended preparation: FSP 3010. Typically Offered: Varies.

FSP 5980 (s) Internship (1-16 credits, max 99)
Credit arranged

FSP 5990 (s) Research (1-16 credits, max 99)
Credit arranged. Research not directly related to a thesis or dissertation.
Prereqs: Permission

FSP 6000 Doctoral Research and Dissertation (1-45 credits, max 99)
Credit arranged
Prereqs: Admission to the doctoral program in Natural Resources and Department Permission.