Sustainable Packaging (BIOP)

The Sustainable Packaging (BIOP) degree provides students with foundational knowledge and structure of both traditional forest products as well as emerging sustainable industry segments, an understanding of trade patterns and marketing, and the role of private industry and government organizations in development and trade, and the potential contribution of economic development.

The learning objectives of the program are to provide students with:

1. Understanding of the chemical, physical, and mechanical properties of solid wood and bio-based products and packaging materials.
2. Knowledge of the thermal, electric, and acoustic properties of bio-based products and packaging materials.
3. Understanding of the relationships between anatomical structure and the physical/mechanical behavior of materials.
4. Ability to identify commercially important sustainable materials and the durability of bio-based products and packaging materials.
5. Able to complete sustainable material lifecycle assessments considering resource and energy consumption as well as waste generation.

Freshman

Fall	Hours	Spring	Hours
ENGL 1100 English Composition I	3	ENGL 1120 English Composition II	3
BIOL 1020 Principles of Biology	3	BIOL 1030 Organismal Biology	3
BIOL 1021 Principles of Biology Laboratory	1	BIOL 1031 Organismal Biology Laboratory	1
MATH 1130 Pre-Calculus Trigonometry (or Higher)	3	STAT 2510 Statistics for Biological and Health Sciences	3
INDD 1120 Industrial Design in Modern Society	3	Core History or Social Science[1]	3
Core History	3	**BIOP 2120 Frontiers for Sustainable Biomaterials**	**3**
	16		**16**

Sophomore

Fall	Hours	Spring	Hours
BIOP 2140 Fundamentals of Packaging Technology	3	CHEM 1040 Fundamental Chemistry II	3
BUAL 2650 Business Analytics II	3	CHEM 1041 Fundamental Chemistry II Laboratory	1
CHEM 1030 Fundamentals Chemistry I	3	SUST 2000 Introduction to Sustainability	3
CHEM 1031 Fundamental Chemistry I Laboratory	1	Core Fine Arts	3
ECON 2020 Principles of Microeconomics	3	Core Literature or Humanities[1]	3
Core Literature[1]	3	COMM 1000 Public Speaking	3
	16		**16**

Junior

Fall	Hours	Spring	Hours
BIOP 3390		BATM 2110 Digital Analytics in Agriculture and Technology	3
Free Elective	1	**BIOP 4060 Economics of Sustainable Biomaterials and Packaging**	**3**
BIOP 5070 Performance and Durability of Products and Packaging	3	**BIOP 4080 Business Management for Sustainable Biomaterials**	**3**
MATL 2220 Materials and the Environment ***or*** 2230 Mineral Resources: Processing and Availability	1	**BIOP 5050 Biomass Processing Chemistry**	**3**
MKTG 3810 Foundations of Business Marketing	3	**BIOP 4360 Sustainable Biomaterials Trade and Marketing**	**3**

SCMN 2150 Principles of Supply Chain Management		2			
		10			**15**

Senior

Fall	**Hours**		**Spring**	**Hours**	
BIOP 4400 Sustainable Biomaterials & Product Development		**2**	**BIOP 4410 Sustainable Biomaterials & Product Development II**		**2**
BIOP 4840			**BIOP 5800 Biopolymers for Sustainable Biomaterials and Packaging**		**3**
BIOP 5250 Wood Composites for Biomaterials & Packaging		**3**	CSES 5400 Bioenergy and the Environment		3
ENVD 2040 Design, Invention and Society		3	SCMN 5720 Quality & Process Improvement		3
INSY 3020 Occupational Safety Ergonomics		3	MKTG 4340 Marketing and New Product Development		3
		11			**14**

Total Hours: 114

[1] Students must complete a sequence in either Literature or History.
Courses in bold are majors courses and must be completed with a 2.0 or better.