PACKAGING PKG

School of Packaging
College of Agriculture and Natural Resources

101 Principles of Packaging
Fall, Spring, Summer. 3(3-0) SA: PKG 210
Packaging systems, materials and forms and their relationship to the needs and wants of society.

221 Packaging with Glass and Metal
Fall, Spring. 3(3-0) P:M: (CEM 141 or CEM 151 or LBS 171) and (PHY 231 or PHY 231B or PHY 231C or PHY 183 or PHY 183A or PHY 183B or PHY 193H or LBS 271) and (PKG 101 or concurrently) SA: PKG 320, PKG 325
Physical and chemical properties of glass and metals and their applications to packaging.

322 Packaging with Paper and Paperboard
Fall, Spring. 4(3-2) P:M: (PKG 221 or concurrently and PKG 101) and (MTH 124 or MTH 132 or LBS 118 or MTH 152H) and (CEM 143 or CEM 251 or CEM 351) and (STT 200 or STT 201 or STT 315 or STT 351) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging. SA: PKG 325
Physical and chemical properties, manufacture, conversion, and use of wood, paper, paperboard, and related components in packaging. Design, use, and evaluation of packages.

323 Packaging with Plastics
Fall, Spring. 4(3-2) P:M: (PKG 221 or concurrently and PKG 101) and (CEM 143 or CEM 251 or CEM 351) and (STT 200 or STT 201 or STT 315 or STT 351) and (MTH 124 or MTH 132 or LBS 118 or MTH 152H) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging. SA: PKG 320
Physical and chemical properties of plastics and their relationship to selection, design, manufacture, performance, and evaluation of packages.

330 Package Printing
Fall. 3(3-0) P:M: (PKG 221) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.
Methods of printing packages including copy preparation, design, electronic imaging, aesthetics, camera use, and effects of package materials. Production of printed packages including quality control, economics, and environmental considerations.

370 Packaging and the Environment
Spring. 3(3-0) P:M: Completion of Tier I writing requirement. RB: (CEM 141 or CEM 151 or LBS 164) R: Not open to freshmen or sophomores.
Effects of packaging on environmental quality. Solid waste. Air and water quality. Laws, economics and energy. Resource use and conservation.

410 Distribution Packaging Dynamics
Fall, Spring. 3(3-0) P:M: (PKG 322 and PKG 323) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging. SA: PKG 310
Identification and measurement of hazards in physical distribution. Methods of protection against climate, shock, vibration, and compression.

415 Packaging Decision Systems
Fall, Spring. 3(2-2) P:M: (MTH 116 or LBS 117 or MTH 114 or MTH 124 or MTH 132 or LBS 118 or MTH 152H) RB: (CSE 101 or CSE 131) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.
Application of computers to analyze and solve problems in the management, specification, production, and testing of packaging systems.

432 Packaging Processes
Fall, Spring. 4(3-2) P:M: (PKG 322 and PKG 323) and (PHY 232 or PHY 232B or PHY 232C or LBS 272 or PHY 184 or PHY 182B or PHY 184A or PHY 184B or PHY 294H) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.
Integrated study of packaging and production operations, quality control, and organization and control of machines. Interrelationship of products, packaging, machinery layout and efficiency, and quality issues.

440 Robotics and Automotive Packaging
Fall. 3(3-0) P:M: (MTH 124 or MTH 132 or LBS 118 or MTH 152H)
Robotic systems: configurations, components, drive mechanisms, control and feedback, safety. Line inspection, vision systems, guided vehicle and storage retrieval systems, reusable and expendable packaging, container cleaning and identification and economics.

452 Medical Packaging
Fall. 4(3-2) P:M: (PKG 322 or PKG 323)
Special requirements for packaging pharmaceuticals and medical devices. Evaluation of package systems and packaging procedures.

455 Food Packaging
Spring. 3(3-1) P:M: (PKG 322 and PKG 323) R: Open only to sophomores or juniors or seniors or graduate students in the Packaging major.
Food package systems related to specific products and processes. Product composition: problems and packaging solutions, shelf life considerations, and packaging lines.

460 Distribution Packaging and Performance Testing
Spring. 3(2-2) P:M: (PKG 410) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.
Interrelationships between packaging and distribution systems. Transportation, material handling, warehousing. Logistics and management systems. Performance testing and industry practices. Package container design and testing.

475 Packaging Economics
Fall. 3(3-0) RB: (EC 201 or EC 202)
Economic issues in packaging as they relate to policies of the firm and of government. Relationships between economic policy and societal issues.

480 Packaging Laws and Regulations
Spring. 3(3-0) RB: (PKG 322 or PKG 323) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.
History and development of packaging laws and regulations. Relationships among law, government regulation and commercial regulation. Effect of current laws and regulations on packaging.

485 Packaging Development (W)
Fall, Spring. 4(4-0) P:M: (PKG 410 and PKG 415 and PKG 432) and completion of Tier I writing requirement. R: Open only to seniors or graduate students in the School of Packaging.
Package development including selection, design and implementation of package systems for protection, distribution, merchandising, use and disposal.

490 Directed Studies in Packaging Problems
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: (PKG 322 and PKG 323) R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging. Approval of department; application required.
Development of solutions to specific packaging problems. Supervised individual study.

491 Special Topics
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course.
Selected topics of current interest.

492 Senior Seminar
Fall, Spring. 1(2-0) R: Open only to seniors in Packaging.
Seminar on current packaging issues, business organization and operations, and accepted practices in a corporate environment.

493 Professional Internship in Packaging
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P:M: (PKG 322 and PKG 323) R: A student may earn a maximum of 6 credits in all enrollments for any or all of these courses: ABM 493, AEE 493, ANR 493, ANS 493, CSS 493, EEP 493, FIM 493, FW 493, HRT 493, PKG 493, PLP 493, PRR 493, and RD 493. Approval of school; application required.
Supervised professional experience in the field of packaging offered through corporations and other businesses throughout the U.S.

PARK, RECREATION AND TOURISM RESOURCES PRR

Department of Park, Recreation and Tourism Resources
College of Agriculture and Natural Resources

100 Recreation in Michigan Natural Resources
Spring. 3(3-0)
The scope and status of Michigan natural resources used for recreation. Historical and philosophical foundations of management and policy. Analysis of contemporary environmental and recreational policy issues.

200 Leisure and Society
Fall, Spring, Summer. 3(3-0)
Leisure and recreation as part of daily life. Leisure as a social, psychological, political, economic and cultural force in the United States.