



Packaging

1. University Requirements: (23)

Writing, Rhetoric and American Cultures (WRA)
Integrative Studies in Humanities (IAH)
IAH 201-210 and IAH 211 or higher
Integrative Studies in Social Sciences (ISS)
ISS 2XX and ISS 3XX
Bioscience (ISB):
FSC 342 or MMG 201
Physical Science (ISP and lab):
CEM 141 and CEM 143

2. Major Requirements: (61-62)

a. STEM Core Requirement

Complete all the following courses: (22)

CEM 141*	General Chemistry	4
CEM 161	Chemistry Laboratory I	1
CEM 143	Survey of Organic Chemistry	4
MTH 132*	Calculus I	3
MTH 133	Calculus II	4
PHY 231*	Introductory Physics I	3
PHY 232	Introductory Physics II	3

*Upper School Admission Requirement

b. Packaging Core Requirement

Complete all the following courses: (36)

PKG 101	Principles of Packaging	3
PKG 102	Introductory Packaging Seminar	2
PKG 221	Packaging with Glass and Metal	2
PKG 315	Packaging Decision Systems	3
PKG 322	Packaging - Paper & Paperboard	4
PKG 323	Packaging with Plastics	4
PKG 410	Distribution Packaging Dynamic	4
PKG 411	Package Development Technology	3
PKG 432	Packaging Processes	4
PKG 465	Packaging Value Chain	3
PKG 485	Packaging Development (Capstone)	4

c. Statistics Requirement

Select one of the following courses: (3-4)

STT 200	Statistical Methods	3
STT 201	Statistical Methods	4
STT 315	Intro to Prob and Stats for Business	3
STT 351	Probability and Stats for Engineering	3

d. Business Focus Requirement

Select one of the following courses: (3)

MKT 327	Introduction to Marketing	3
SCM 304	Survey of Supply Chain Management	3

e. Economics Requirement

Select one of the following courses: (3)

EC 201	Introduction to Microeconomics	3
EC 202	Introduction to Macroeconomics	3

Packaging Electives

4
8
8
Nine credits in Packaging electives are required and earned through coursework, participation in the internship or overseas study programs.

f. Completion of electives in packaging: (9)

PKG 421	Virtual Design and Prototyping	3
PKG 430	Packaging for Fast-Moving Consumer Goods	3
PKG 441	Ai and Robotics in Packaging	3
PKG 444	Radio Frequency Identification (RFID) for Packaging	3
PKG 450	Automotive Packaging	3
PKG 452	Medical Packaging	4
PKG 455	Food Packaging	4
PKG 456	Packaging and Shelf Life of Perishable Food	3
PKG 470	Packaging Sustainability	3
PKG 477	Hazardous Materials Packaging	3
PKG 480	Packaging Laws and Regulations	3
PKG 490	Directed Studies in Packaging Problems	3
PKG 491	Special Topics	1-4
PKG 493	Professional Internship in Packaging	3
PKG 499	Undergraduate Research	1-4

Core Curriculum

All packaging majors must complete a core curriculum consisting of 10 packaging courses which accounts for 33 of the 120 credits required for the degree and includes more than 100 hours of practical laboratory experience.

Core courses include studies in the following areas:

- Technical principles for packaging
- Packaging career preparation and skills
- Materials (glass, plastic, paper, and metals in packaging)
- Computer applications
- Packaging processes & systems
- Distribution dynamics
- Design and prototyping
- Life Cycle Analysis & Environmental impacts
- Economic Factors of Packaging

Admissions Requirements

Admission to the upper division requires that the student has completed the following courses **with a minimum of a 2.0 in each course AND 3.0 cumulative GPA over all coursework completed at MSU.**

- CEM 141
- PHY 231
- MTH 132

Students who have already declared their major preference as Packaging prior to reaching 56 credits will be automatically reviewed for admission; there is no application required. For students outside the packaging major, please contact the Packaging Advisor for admission review.



Packaging- Sample Plan

FRESHMAN					
FALL		SPRING		SUMMER	
CEM 141*	4	PHY 231*	3	ISS 2XX or IAH 201-210	4
CEM 161	1	MTH 133	4		
MTH 132*	3	PKG 102	2		
PKG 101	3	ISS 2XX or IAH 201-210	4		
WRA 101	4	EC 201 or 202	3		
TOTAL CREDITS	15	TOTAL CREDITS	16	TOTAL CREDITS	4

SOPHOMORE					
FALL		SPRING		SUMMER	
CEM 143	4	PKG 322	4	Free Elective/ Minor	3
STT 200	3	PKG 323	4		
PKG 221	2	PHY 232	3		
PKG 315	3	ISS 3xx OR IAH 211 or higher	4		
Free Elective/MINOR	3				
TOTAL CREDITS	15	TOTAL CREDITS	15	TOTAL CREDITS	3

JUNIOR					
FALL		SPRING		SUMMER	
PKG 493	3	PKG 410	4	PKG elective	3
(INTERNSHIP)		ISS 3xx OR IAH 211 or higher	4		
		PKG 432	4		
		MKT 327/SCM 304	3		
TOTAL CREDITS	3	TOTAL CREDITS	15	TOTAL CREDITS	3

SENIOR					
FALL		SPRING			
Free Elective/ Minor	3	PKG 485	4		
PKG 465	3	PKG elective	3		
FSC 342	3	Free Elective/ Minor	3		
PKG 411	3	Free Elective/ Minor	3		
Free Elective/ Minor	3	Free Elective/ Minor	3		
TOTAL CREDITS	15	TOTAL CREDITS	16		

TOTAL CREDITS TO GRADUATE: 120

* Dictates a required course for admission



Competency Programmatic Learning Outcomes

The Packaging (PKG) major is a hands-on undergraduate BS degree program in the School of Packaging withing the MSU College of Agriculture and Natural Resources. The program is based on competency-based programmatic learning outcomes (CPLOs) and the MSU learning goals (MSU-LGs) mapped to each individual class learning outcomes (CLOs). CLOs, CPLOs, and MSU-LG are assessed in each core and elective PKG courses.

1. *Evaluate packaging systems*

Evaluate and choose materials, packaging systems, and components by applying and interpreting scientific tests, writing and interpreting specifications, and using and recommending appropriate test protocols.

2. *Analyze tradeoffs in packaging systems*

Analyze and prioritize product, packaging line, distribution system, environmental footprint, marketing, financial implications, user needs and additional tradeoffs to create and/or to provide innovative, efficient, sustainable, legally compliant and cost-effective packaging systems.

3. *Design innovative and sustainable packaging systems*

Design innovative and sustainable solutions to package and packaging systems related problems and future needs.

4. *Manage projects in diverse teams*

Formulate and manage projects with the ability to work in diverse teams to achieve common and successful outcomes.

5. *Communicate effectively considering diverse audiences*

Communicate effectively considering diverse audiences in a variety of situations with a variety of media.

6. *Professional and ethical manner*

Conduct oneself in a professional and ethical manner, exhibiting values such as civility and respect for others, honesty, integrity, accountability, maintenance of confidentiality, etc.