

**Jordan University of Science and Technology**  
**Faculty of Agriculture**  
**Department of Nutrition and Food Technology**  
**First Semester 2022/2023**  
**Course Specifications**

Title & Instructor	
<b>Course Title</b>	Food Packaging
<b>Course Number</b>	NF 478
<b>Prerequisites</b>	
<b>Course Website</b>	
<b>Instructor</b>	Prof. Taha Rababah
<b>Office Location</b>	
<b>Office Phone</b>	
<b>Office Hours</b>	To be determined and by appointment
<b>E-mail</b>	
<b>Teaching Assistant</b>	To be announced

Course Description	
This course is designed to introduce students to the physical principles and technology of packaging for the food industry with emphasis on the consequences to food stability and quality. Food packaging materials will be discussed with emphasis on their interaction with food products.	
Learning Outcomes	Weights
Be able to discuss packaging related issues such as materials selection Forming techniques and packaging sealing with a packaging engineer	<b>20%</b>
Know how food packaging is manufactured	<b>15%</b>
Understand the material properties of various packaging raw materials as well as the final package.	<b>15%</b>
Understand the principal methods of packaging foods as well as criteria for selecting and testing packaging materials.	<b>15%</b>
Have familiarity with packaging equipment and methods	<b>20 %</b>
Have discussed recent advances in food packaging techniques and systems.	<b>15%</b>

Text Book & References	
<b>Title</b>	Food Packaging, Principles and practice
<b>Author(s)</b>	Gordon L Robertson. Marcel Dekker
<b>Publisher</b>	
<b>Year</b>	
<b>Edition</b>	2nd Ed
<b>Book Website</b>	
<b>References</b>	Food Packaging and Technology. Richard Coles, Derek McDowell and Mark J Kirwan. Blackwell Publishing Ltd., Oxford, UK

### Teaching & Learning Methods

PowerPoint slides presented by the instructor and provided as soft and hard copies for students.

### Assessment

Assessment Type	Expected Due Date	Weight
First Exam	To be determined	30%
Second Exam	To be determined	30%
Final Exam	To be determined	40%

### Course Content

Week	Topics	ref
1	Overview	1
2	Food deterioration, shelf-life and reaction kinetics	1
3	Paper and paperboard, Paperboard packaging	1
4	Glass containers, Metal cans and containers	1
5	Basic polymer chemistry	1
6	Shaping plastics, Plastic materials	1
7,8	Retortable plastic containers and aseptic packaging , Aluminum foils and metallizing, Flexible packaging	1
8,9	Effect of Physical Properties of Packaging	1
9-10	Distribution packaging, Permeation in packages, Modified atmosphere,	1
11,12	Packaging for oxygen and moisture sensitive foods , Package design for safety and security	1
13-14	Active packaging, Intelligent packaging , Packaging as a waste material	1

### Policies

<b>Exams</b>	The exams will include a variety of questions, true-false, multiple choice, fill in the blanks, and essay questions.
<b>Cheating</b>	Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty. Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room (e.g., crib notes or cell phones). Exam cheating can also include exam

	impersonation. A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty.
<b>Attendance</b>	Consistent with Jordan University of Science and Technology guidelines, students absent from regularly scheduled examinations because of authorized University activities will have the opportunity to take them at an alternate time. No make-up exams will be given for unexcused absences.
<b>Participation</b>	Participation and discussion are encouraged for earning additional points (extra credits).
<b>Withdraw</b>	Consistent with Jordan University of Science and Technology guidelines