

14:440:471 (Spring, 2017) Distribution Packaging
 Packaging Engineering Program, School of Engineering
 Rutgers University – New Brunswick, New Jersey

Instructor: Won-Jong Rhee
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 Office: Engineering Building, A260
 Course Time: Wednesday 10:20A-1:20P
 Office Hour: by arrangement
 Phones: 732-236-5445 (cell), 848-445-5234 (office)
 Class Location: SEC 217
 Course Website: <http://sakai.rutgers.edu>

Course Descriptions:

Course Schedule:

Week	Description	Assignment
1	General Introduction to Distribution Packaging	
2	Shipping Containers: Optimum Selections & Applications of Corrugated & Solid fiberboard boxes & their Applications in Distribution.	
3	Shipping Containers: Applications of Sacks/Bags, Nailed Wooden Boxes & Crates in Distribution.	
4	Shipping Containers: Shipping Applications of Wire-bound Cleated Containers; Cylindrical Containers.	
5	Packaging Materials: Selections of Wrapping & Barrier Materials for Moisture-Sensitive Products & Optimum Protective Cushion Design & Selection of Adequate Cushioning Materials for Fragile Products.	
6	Packaging Systems: Reinforcing, Bundling & Unitizing, & Pallet Systems, Materials & Handling Equipment, & Easy-Opening Devices. Blocking & Bracing of the Wooden Containers/Crates for Heavy-duty Freights.	
7	Continued from above.	
8	Midterm	
9	Spring Break	
10	Fundamental Dynamic Theory in Distribution Environment	
11	Establishment & Applications of Damage Boundary Curves of Fragile Products in terms of Shock & Vibration.	
12	Establishment & Applications of Shock & Vibration Cushion Curves of Various Cushion Materials. Practice of Protective	

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	Packaging Design using Shock & Vibration Fragility Data & Cushion Curves	
13	Investigation for Practical Data in Distribution Environment in terms of Shock & Vibration, Temperature, Humidity Effects, and Application of Practical Data for Optimum Distribution Package Design.	
14	Thermal Insulation Theory and Applications for Distribution Packages for Biodegradable/Living/Thermally-Sensitive Products.	
15	HAZMAT (Hazardous Materials) Packaging Issues in the Ground, Airborne, & Maritime Transportation. ESD (Electrostatic Discharge) Problem in the Distribution Environment & its Preventive Package Design.	
16	Reading	
17	Final Exam (Cumulative)	

Grading Policy:

Attendance: 10% (each unjustifiable absence=5% reduction)

*** Three unjustifiable absences=fail (unconditional)

*** Each 15 minute late to class=1/3 absence

*** Sign in as entering the class.

Midterm: 40%

Final: 50%

Total: 100%

*** During the semester, there may be some adjustments required in lesson order or assignments. Those will be announced in class and/or on the course website.

In-class Policy: Permitted no electronic devices at hand during lecture periods.

Homework Policy: All assignments to be handed in before due date/time posted.

Exam & Quiz Policy: **NO** open books/notes/computers. **NO** student discussions/ copying/exchanges.