Distribution and Transport Packaging

PKG4008 (14377)
Class Periods: MWF | Period 3 | 9:35 A.M. - 10:25 A.M.
Location: ROG 110
Academic Term: Spring 2025

Instructor:
Dr. William Pelletier
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(352) 294-6701
Office Hours: Online/TBD
Office Location: 101 Frazier Rogers Hall

Teaching Assistants:
N/A

Course Description
Studies containment, protection and preservation practices related to transporting and delivery of packages. 3 Credits.

Course Pre-Requisite and Co-Requisites
N/A

Course Objectives
Students, upon completing this course, will be able to:

- Understand the fundamentals of distribution and transport packaging.
- Understand the characteristics and hazards associated with the distribution environment.
- Understand the basics of packaging dynamics.
- Prepare a protective package using appropriate materials and testing equipment.

The course presents topics related to the technical aspects of a system approach to designing packaging that provides product protection and facilitates safe and cost-effective distribution. Topics include analyses of the distribution environment, transportation types, packaging dynamics and testing procedures. This course will help students develop their ability to: 1. identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics; 3. communicate effectively with a range of audiences; 4. recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts; 5. function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives; 6. develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

The course will consist of three (3) lectures per week, homework assignments, quizzes, a project and examinations.

Materials and Supply Fees
N/A

Professional Component (ABET):
This course contributes three (3) credit hours toward meeting the minimum 48 credit hours of Engineering Topics in the basic-level curriculum for the Packaging Engineering concentration in Biological Engineering.

Relation to Program Outcomes (ABET):

Outcome		Coverage*
1.	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	Medium
2.	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	
3.	An ability to communicate effectively with a range of audiences	Low
4.	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	Low
5.	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	High
6.	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	High
7.	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	Medium

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not covered or assessed in the course.

Textbook
N/A

Attendance Policy, Class Expectations, and Make-Up Policy

- Attendance (on time) at lectures and laboratory sessions is expected from all students, always. A sign-in sheet will be used to monitor attendance which accounts for 10% of your final grade. Students will be warned if they are late on several occasions. Following a second warning, late attendances will be counted as missed lectures.
- Specific directives will be provided for each assignment, but, in most cases, homework assignments and project reports must be turned in through Canvas. Assignments and reports will be marked down for a sloppy presentation and, if excessive, they may be returned un-graded. Assignments submitted late, before 4:00 P.M. on the day they were due will be marked down by 10% of their total. After that first 4:00 P.M. deadline, the penalty increases to 50%. No assignments will be accepted after 4:00 P.M. on the following day.
- For online homework assignment submissions, it is the student's responsibility to ensure that the correct file is uploaded on Canvas. A late submission penalty may be applied if an incorrect document is uploaded. If technical difficulties with Canvas were to occur, students may always email their work to wpelletier@ufl.edu.

Attendance Policy, Class Expectations, and Make-Up Policy (Continued)

- No make-up exams or quizzes will be given except for valid medical reasons or unless prior arrangements have been made.
- Excused absences must be consistent with university policies in the undergraduate catalog (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx) and require appropriate documentation.

Course Schedule (subject to change)

Week 1	**13-Jan**	**17-Jan**	**M**	Syllabus	**Week 9**	**10-Mar**	**14-Mar**	**M**	Damage Boundary Curves
			W	Introduction				**W**	Damage Boundary Curves
			F	Environment and Product Type				**F**	Laboratory Demonstration 2
Week 2	**20-Jan**	**24-Jan**	**M**	**Martin Luther King Jr. Day**	**Week 10**	**17-Mar**	**21-Mar**	**M**	
			W	Environment and Product Type				**W**	**Spring Break**
			F	Environment and Product Type				**F**	
Week 3	**27-Jan**	**31-Jan**	**M**	Environment and Product Type	**Week 11**	**24-Mar**	**28-Mar**	**M**	Cushioning
			W	Pharmaceutical Shippers				**W**	Cushioning
			F	Pharmaceutical Shippers				**F**	Performance Testing
Week 4	**3-Feb**	**7-Feb**	**M**	Pharmaceutical Shippers	**Week 12**	**31-Mar**	**4-Apr**	**M**	Industry Standards
			W	Introduction to Packaging Dynamics				**W**	Industry Standards
			F	Vibrations - Basic Concepts				**F**	Review
Week 5	**10-Feb**	**14-Feb**	**M**	Vibrations - Spring/Mass Systems	**Week 13**	**7-Apr**	**11-Apr**	**M**	**Exam 2**
			W	Vibrations - Spring/Mass Systems				**W**	Team Project
			F	Review				**F**	Team Project
Week 6	**17-Feb**	**21-Feb**	**M**	Forced Vibrations	**Week 14**	**14-Apr**	**18-Apr**	**M**	Team Project
			W	**Exam 1**				**W**	Team Project
			F	**Forced Vibrations**				**F**	Team Project
Week 7	**24-Feb**	**28-Feb**	**M**	Laboratory Demonstration 1	**Week 15**	**21-Apr**	**25-Apr**	**M**	Team Project
			W	Damped Vibrations				**W**	Team Project
			F	Random Vibrations				**F**	-
Week 8	**3-Mar**	**7-Mar**	**M**	Random Vibrations	**Week 16**	**28-Apr**	**2-May**	**M**	-
			W	Mechanical Shocks				**W**	-
			F	Mechanical Shocks				**F**	-

Evaluation of Grades

Assignment	Percentage of Final Grade
Exam 1 (expected date: 02/19 at 9:35 A.M.)	25%
Exam 2 (expected date: 04/07 at 9:35 A.M.)	25%
Homework Assignments & Quizzes	15%
Project	25%
Attendance	10%
TOTAL	100%

Grading Policy

Percent	Grade	Grade Points
[90 - 100%]	A	4.00
[87 - 90%[	A-	3.67
[84 - 87%[	B+	3.33
[80 - 84%[	B	3.00
[77 - 80%[	B-	2.67
[74 - 77%[	C+	2.33
[70 - 74%[	C	2.00
[67 - 70%[	C-	1.67
[64 - 67%[	D+	1.33
[60 - 64%[	D	1.00
[57 - 60%[	D-	0.67
[0 - 57%[	E	0.00

More information on UF grading policy may be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Students Requiring Accommodations
Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting https://disability.ufl.edu/students/get-started/ . It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation
Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

In-Class Recording
Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

University Honesty Policy
UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code (https://sccr.dso.ufl.edu/process/student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Commitment to a Safe and Inclusive Learning Environment
The Herbert Wertheim College of Engineering values varied perspectives and lived experiences within our community and is committed to supporting the University's core values, including the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information, and veteran status.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:
• Your academic advisor or Graduate Program Coordinator
• HWCOE Human Resources, (352) 392-0904, student-support-hr@eng.ufl.edu
• Pamela Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@eng.ufl.edu
• Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use
All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy
There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: https://registrar.ufl.edu/ferpa.html

Campus Resources:
Health and Wellness

U Matter, We Care:
Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: https://counseling.ufl.edu, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence
If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. https://lss.at.ufl.edu/help.shtml.

Career Connection Center: Reitz Union, 392-1601. Career assistance and counseling; https://career.ufl.edu.

Library Support: http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/.

Writing Studio: 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/.

Student Complaints Campus:
https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/;
https://care.dso.ufl.edu.

On-Line Students Complaints: https://distance.ufl.edu/getting-help/
https://pfs.tnt.aa.ufl.edu/state-authorization-status/#student-complaint