

## **FS 526: Shelf Life of Packaged Foods**

### **Instructor**

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### **Learning Goal**

Provide the students with a good theoretical and practical understanding for solving problems relating to the shelf life of packaged foods.

### **Topics to be covered**

- Basic concepts of shelf life
- Food quality measurements
- Reaction kinetics of food deterioration
- Experimental designs for shelf life studies
- Application of predictive microbiology
- Gas permeation and measurements
- Shelf life models for oxygen sensitive packaged foods
- Shelf life models for moisture sensitive packaged foods
- Modified atmosphere packaging for fresh produce
- Food packaging interactions

### **Expected outcomes**

- The students will learn the concepts of shelf life, factors affecting shelf life, and strategies for extending shelf life.
- The student will learn how to use (1) chemical and microbial kinetics to quantify food deteriorative reactions, (2) mass transfer theories to quantify the movement of gases and vapors through package, and (3) mathematics (including basic calculus) to develop predictive shelf life models.
- Using case studies, the students will learn how to apply the concepts learned in this course.

**Assessment**

- Class participation
- Home assignments
- Mid-term and final exams
- Team projects
- Presentations in class