

**Mushrooms: Biology, Post-Harvest Practices and Nutritional Composition**  
Spring Semester 2014, 2 Credits

**Instructor:** Michael Kalaras, Ph.D.

**Course Objective:** The primary objective is to provide the information needed to understand the ecological, scientific, commercial and nutritional impact mushrooms have in and on society. The course will focus on the biology of the Fungi kingdom, commercial growing and postharvest practices, and nutritional attributes of mushrooms. The course will combine lecture, lab and discussion to attain an immersive understanding of mushrooms. Students will be required to incorporate and apply knowledge of biology, chemistry, biochemistry and nutrition to mushrooms to succeed in this course.

**Course Outline:**

Week	Date	Section	Lesson
1	13-Jan	Introduction	Fungi Kingdom And Biology
	15-Jan		Biology
2	20-Jan	History	MLK DAY
	22-Jan		Fungi Through History Agaricus Production ( <i>Dr. John Pecchia-guest lecture</i> )
3	27-Jan	Cultivation	Mushroom Cultivation
	29-Jan		
4	3-Feb	Safety	Poisonous Mushrooms Mushroom Food Safety- Composting, Production, and Post-Harvest ( <i>Dr. Luke LaBorde-guest lecture</i> )
	5-Feb		
5	10-Feb	<b>Exam 1</b>	(Weeks 1-4)
	12-Feb		Edible Mushrooms US Production/Agaricus
6	17-Feb	Factors Affecting Mushroom Quality	World Production/Specialty Crops
	19-Feb		Factors Influencing Consumer Acceptance
7	24-Feb		Lab- Browning
	26-Feb		Lab- Mushroom Washes
8	3-Mar		Lab- Browning Data Collection
	5-Mar		Lab- Mushroom Washes Data Collection
/	10-Mar		SPRING BREAK
/	12-Mar		SPRING BREAK
9	17-Mar	Mushroom Shelf Life	Paper Discussion
	19-Mar		Paper Discussion
10	24-Mar	Group Presentations	Storage Temperature and Stipe Trimming
	26-Mar		Mushroom Washes
11	31-Mar	<b>Exam 2</b>	Lecture 8&9 and Lab Materials
	2-Apr		Nutritional Composition of Mushrooms Composition
12	7-Apr	Ergothioneine	Ergothioneine In Mushrooms/Chemical and Biological Activity of Ergothioneine
	9-Apr		Paper Discussion
13	14-Apr	Vitamin D	Paper Discussion
	16-Apr		Vitamin D and Human Health
14	21-Apr		Vitamin D and Mushrooms
	23-Apr		Vitamin D and Mushrooms
15	28-Apr		Paper Discussion
	30-Apr		Paper Discussion