

**Production and Postharvest Physiology
of Vegetable Crops
(APBI 417)**

**LECTURE OUTLINE
(2018-2019)**

SCHEDULE: Lectures: T, Th, 9:30-11:00 a.m., Rm 258 MacMillan
Laboratory: F, 1-4 pm, Rm 342 MacMillan

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LECTURE SCHEDULE:

DATE	TOPIC
Sept. 6	Introduction, course objectives; definitions; economic and nutritional importance; classification schemes. (M.K. Upadhyaya)
Sept. 11, 13	Environment and vegetable crop production - heat, water, soil, light, and salinity. (M.K. Upadhyaya)
Origin, history, morphology, nutritional value, growth and development, and production of major vegetable crops. (M.K. Upadhyaya)	
Sept. 18	Potato (Solanaceae)
Sept. 20	Tomato (Solanaceae)
Sept. 25	Peppers (Solanaceae)
Sept. 27	Lettuce (Compositae)
Oct. 2	Sweet corn (Poaceae)
Oct. 4	Onion [Alliaceae (Amaryllidaceae)]
Oct. 9	Carrots (Apiaceae)
Oct. 11-16	Cabbage, cauliflower, broccoli and Brussel's sprouts (Brassicaceae)
Oct. 18, 23	Beans and peas (Fabaceae), spinach (Chenopodiaceae) and cucurbits (Cucurbitaceae)

DATE	TOPIC
Post-harvest handling and physiology of vegetable crops	
Oct. 25	<u>MIDTERM EXAMINATION</u>
Oct. 30	Postharvest physiology – Introduction and challenges, components and measurement of vegetable and fruit quality; food safety issues. (A. Singh)
Nov. 1	Respiration and its role in deterioration of climacteric and non-climacteric vegetables and grapes; factors affecting respiration. (A. Singh)
Nov. 6	Postharvest water relations. (M.K. Upadhyaya)
Nov. 8	Cooling and storage of vegetables. (M.K. Upadhyaya)
Nov. 13	Ethylene physiology - history, response to ethylene, precursors and pathways, ripening and senescence, mode of action, and inhibitors of ethylene synthesis. (M.K. Upadhyaya)
Nov. 15	Controlled atmosphere storage; new technologies. (A. Singh)
Nov. 20	Greenhouse vegetable production – Hydroponics. (M. Biron)
Nov. 22	Greenhouse vegetable production – IPM. (M. Biron)
Nov. 27	Greenhouse vegetable production – Plant pathology. (M. Biron)
Nov. 29	Greenhouse vegetable production – Crop steering. (M. Biron)

Distribution of Marks:

Lecture Midterm	20
Lecture Final	40
Laboratory Midterm	10
Laboratory Final	10
Vegetable Crop Fact Sheet	5
<u>Special Project</u>	<u>15</u>
Total	100