

Day	Date	Week	Topic	Lecture Content	Lab	Due dates
M	7-Oct	1	Introduction and Food Components	Visiting Chefs: Ferran Adria, Harold McGee	Precision of Cooking Instruments	
T	8-Oct			1. Welcome and Introduction		
W	9-Oct			2. History of Science of Cooking		
Th	10-Oct			3. Fats, Carbohydrates and Proteins		
F	11-Oct			4. Moles and Chocolate Chip Cookies		
S	12-Oct			5. pH		
S	13-Oct			6. Why Equations?		
M	14-Oct	2	Energy, Temperature and Heat	Visiting Chef: Dave Arnold	At Home Sous-Vide Eggs or Ricotta Cheese	
T	15-Oct			1. Introduction to Energy, Temperature, and Heat		
W	16-Oct			2. Wood, Ovens, and Heat		
Th	17-Oct			3. $Q = mc\Delta T$		
F	18-Oct			4. Drinks!		
S	19-Oct			5. Specific Heat and 4-4-9 Rule		
S	20-Oct			6. Latent Heat		
M	21-Oct	3	Phase Transitions	Visiting Chef: Joan Roca	Ice Cream	
T	22-Oct			1. Introduction to Phase Transitions		
W	23-Oct			2. Phase Diagrams		
Th	24-Oct			3. Cooking SousVvide and with Rotovaps		
F	25-Oct			4. Phase Transitions of Fats		
S	26-Oct			5. A SuperCool Dessert!		
S	27-Oct			6. Solubility and Freezing Point Depression		
M	28-Oct	4	Elasticity	Visiting Chef: Bill Yosses	Elasticity of Foods	
T	29-Oct			1. What is Elasticity?		
W	30-Oct			2. Microscopic Origins of Elasticity		
Th	31-Oct			3. Applications to Steak and Strudel		
F	1-Nov			4. Candy Making and Crystallization		
S	2-Nov			5. Candy Apple, Sorbet, and Tuille		
S	3-Nov					
			EXTRA: Chocolate!	Visiting Chef: Enric Rovira		
				1. Chocolate Tempering		
				2. Phases of Chocolate		

M	4-Nov	5	Gelation, Diffusion & Spherification	Visiting Chef: José Andrés	Diffusion in Eggs and Ceviche	
T	5-Nov			1. Intro to Gelation		
W	6-Nov			2. Gels made with Proteins and Hydrocolloids		
Th	7-Nov			3. Gelling Agents in the Kitchen		
F	8-Nov			4. Spherification, Random Walk		
S	9-Nov			5. Osmosis		
S	10-Nov					
M	11-Nov	6	Heat Transfer	Visiting Chef: Carme Ruscalleda	Molten Chocolate Cake	
T	12-Nov			1. Intro to Heat Transfer		
W	13-Nov			2. Browning Reactions		
Th	14-Nov			3. Why it's Hard to Cook a Steak		
F	15-Nov			4. How Professionals Cook Steak		
S	16-Nov			5. Microscopic and Macroscopic Perspective		
S	17-Nov	6. Rules of Thumb				
M	18-Nov	7	Viscosity & Polymers	Visiting Chef: Carles Tejedor	Candy Essentials	Lab 1, HW 1 due due date moved Dec 3rd
T	19-Nov			1. What is Viscosity?		
W	20-Nov			2. Culinary Examples		
Th	21-Nov			3. Thickeners and Polymers		
F	22-Nov			4. Viscoelasticity		
S	23-Nov			5. Glasses		
S	24-Nov					
M	25-Nov	8	Emulsions & Foams	Visiting Chef: Nandu Jubany	Mayonnaise and Culinary Foams	Lab 2, HW 2 due due date moved to Dec10th
T	26-Nov			1. What are emulsions?		
W	27-Nov			2. Surface Energy and Laplace pressure		
Th	28-Nov			3. How Emulsions Fail		
F	29-Nov			4. Foams		
S	30-Nov			5. Colloids		
S	1-Dec	5. Colloids				
M	2-Dec	9	Baking	Visiting Chef: Joanne Chang	Final Projects	Lab 3, HW 3 due due date moved to Dec 17th
T	3-Dec			1. Gas Production from Baking Soda		
W	4-Dec			2. Maillard Reactions		
Th	5-Dec			3. Gas Production from Yeast		
F	6-Dec			4. Baking Phase Diagrams		
S	7-Dec					
S	8-Dec					

M	9-Dec	10	Fermentation & Enzymatic Reactions	Visiting Chefs: David Chang, Wylie Dufresne	Final Projects	Lab 4, HW 4 due due date moved to Jan 7th
T	10-Dec			1. Exponential growth rate of bacteria and yeast		
W	11-Dec			2. Foods and bugs		
Th	12-Dec			3. Enzymatic reactions		
F	13-Dec			4. Food enzymes		
S	14-Dec					
S	15-Dec					
			EXTRA: Sustainability!	Visiting Chef: Dan Barber		
					TUE DEC 24th	break!
					TUE DEC 31st	break!
					TUE JAN 7th	Lab 4, HW 4 due
					TUE JAN 14th	Lab 5, HW 5 due
					TUE JAN 21st	Lab 6, HW 6 due
					TUE JAN 28th	Lab 7, HW 7 due
					TUE FEB 4th	Lab 8, HW 8 due
					TUE FEB 11th	HW 9 due
					TUE FEB 18th	HW 10 due
					March 15th, 2014	Course Closes Final Projects due

Vertical line on the left side of the page.

Vertical line on the right side of the page.

|

|





