SCIENCE & COOKING

The course is divided into 10 weeks, each focusing on a scientific topic related to cooking. Every week includes interactive video lectures, a homework and a lab which you will do in your own kitchen. Toward the end of the course you will also conduct your own scientific study of some recipe or aspect of cooking.

For each week we will post recommended readings from Harold McGee's amazing treatise On Food and Cooking. This will significantly enhance your understanding of this subject and serve as a truly invaluable resource and reference, both for this class and beyond.

here). This text focuses more specifically on the science covered in this course and you may find it helpful for reviewing material and doing the homework. Below is an overview of the ten weeks of the course. For more details on the schedule and course

You can also read more about the material in the <u>Course Companion</u> (also available on iTunes

requirements, you can view the complete syllabus here.

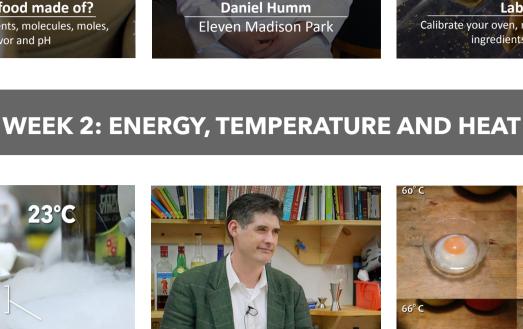
COURSE WELCOME AND OVERVIEW

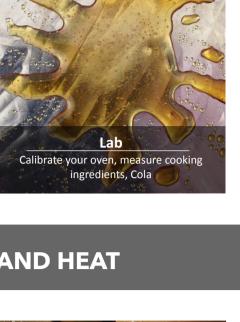












100° C

Lab

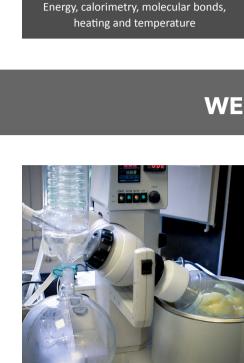
At home sous vide eggs

Hot tea with ice

[-196°C

Dave Arnold

Booker and Dax



Phase Transitions

Phase behavior macroscopically and

microscopically, temperature, pressure,

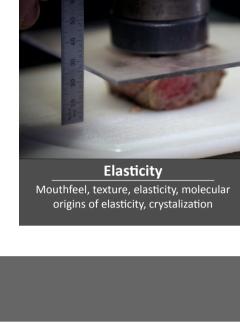
Energy, Temperature, and Heat





phase diagrams, violations to phase diagrams

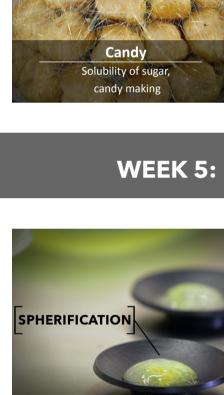
WEEK 4: ELASTICITY



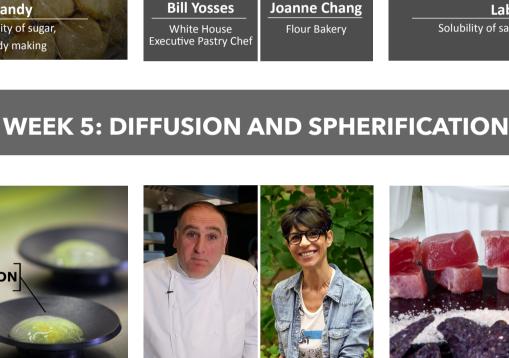


CANDY!









Dominique Crenn



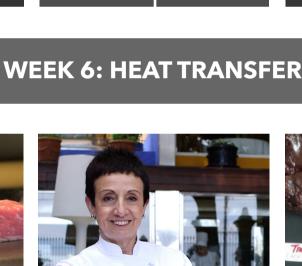
Ceviche, Diffusion in Eggs minibar Atelier Crenn



Heat Transfer

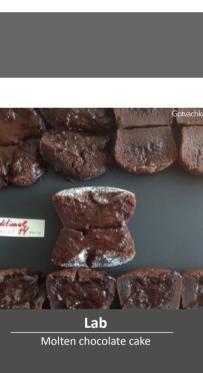
Heat transfer, transition temperature, diffusion of

heat, baking a cake, cooking a steak



José Andrés





Lab

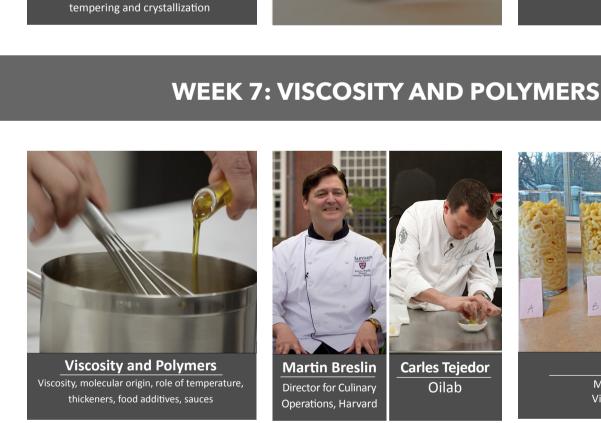
Chocolate tempering

Lab

Enric Rovira

Master Chocolatier

CHOCOLATE!



Emulsions and Foams

Emulsions, surfactants, elasticity of emulsion

materials, mayonnaise, culinary foams

Chocolate

The science of chocolate,



Nandu Jubany

Can Jubany

Christina Tosi

Momofuku

Milk Bar



Final Projects

Joanne Chang Christina Tosi

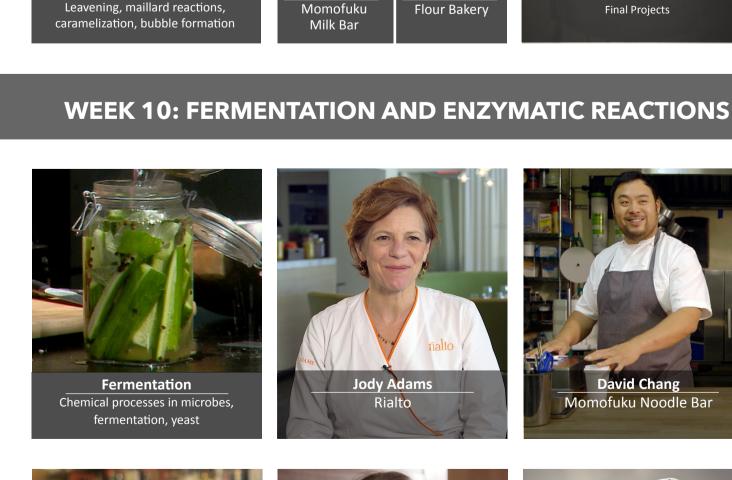
Flour Bakery

rialto

Momofuku

Milk Bar

WEEK 9: BAKING



Ted Russin

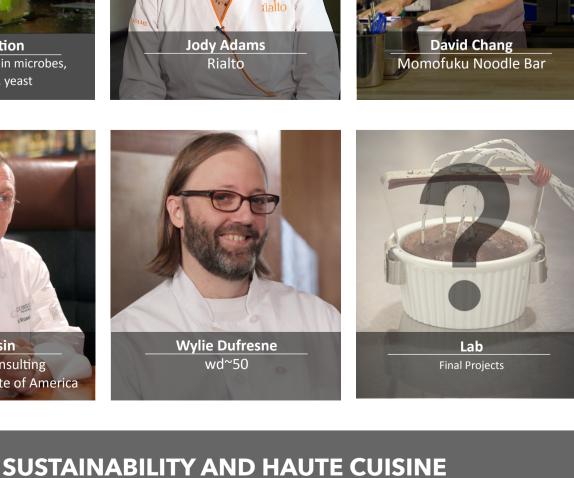
Director of Consulting

The Culinary Institute of America

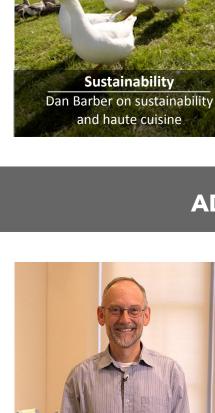
Baking







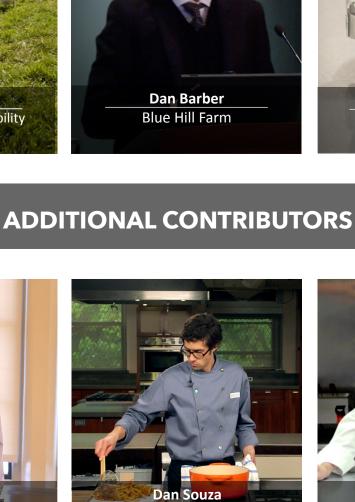
wd~50



Harold McGee

Author, On Food and Cooking:

The Science and Lore of the Kitchen



America's Test Kitchen

