



AUF

The American
University of Florence

SYLLABUS

APICIUS – INTERNATIONAL SCHOOL OF HOSPITALITY

SCHOOL OF FOOD AND WINE STUDIES**DEPARTMENT OF CULINARY ARTS****COURSE TITLE: COOKING LIGHT: CONTEMPORARY TECHNIQUES FOR HEALTHY LIVING****COURSE CODE: FWCAVC420****3 semester credits****1. DESCRIPTION**

The last 40 years of food service have been characterized by a slow yet constant development of nutritional awareness and a more informed approach to food. The aim of the course is not only to offer students techniques for a healthier approach to cooking; this course will focus on cooking techniques that can be applied in order to reduce fat consumption and at same time become the emblems of contemporary cuisine. Flavor-extraction methods, flavoring methods, pressure cooking and sous vide cooking, marinades and brines and the use of alternative fats are nowadays the base of contemporary Chefs' creations: students will learn how these techniques can be used to develop a fine dining cuisine that can be healthier yet not necessarily health-fanatic.

This course includes experiential learning hours with our Community Engagement Member Institutions (CEMI).

2. OBJECTIVES

The goal of the course is to develop students' knowledge of both light recipes and contemporary cooking techniques, towards a careful and nutritionally balanced use of ingredients.

Upon successful completion of this course students will be able to:

- Identify the concept of light cooking as one of the features of contemporary cuisine
- Build light recipes
- Build contemporary style recipes
- Reduce fat and sugar amount from traditional recipes
- Learn principles of sous-vide cooking technique
- Learn the features of sous vide technique and apply the method to nutrients retention and flavors extraction
- Apply smoking technique for flavor
- Flavoring food without adding calories
- Become confident with flavor combinations in order to enhance the dish final result in a low-fat diet
- Learn flavor extraction methods using both classic-conventional and contemporary-modernist techniques
- Learn how to cook with a reduced quantity of fats resulting in quality tasting food
- Learn the potential of pressure cooking in contemporary cuisine and its effects on food
- Learn how to use plant VS animal proteins for a reduced calories intake

- Become confident with all suitable “low-fat” cooking techniques
- Apply marinating and brining methods to food to be served cold or raw

3. REQUIREMENTS

Two semesters of Culinary Arts course work or equivalent.

4. METHOD

This course consists of lectures, class discussions, projects, and site visits within the local community. Mediums for instruction used will include, but are not limited to, interactive and hands-on activities which challenge thought processes, academic texts and studies, videos, slides, guided problem solving, and experiential and/or field learning activities where applicable.

5. TEXTBOOK – FURTHER READINGS – RESOURCES

TEXTBOOK:

Modernist Cuisine at home - The Cooking Lab - 2012

On Cooking: a textbook of culinary fundamentals - 5th ed.- Pearson International

The textbook is mandatory for successful completion of the course.

Where applicable, additional materials, handouts and/or notes will be provided by the instructor.

FURTHER READINGS

Wellness Foods A to Z: An Indispensable Guide for Health-Conscious Food Lovers - Sheldon Margen - The University of California, Berkeley Wellness Letter

The art of Nutritional cooking - M. Baskette-J.Painter - 3rd Edition - Prentice Hall Editions

On food and cooking - Harold McGee - Hodder & Stoughton

Techniques of Healthy Cooking - Armentrout - Wiley

Under Pressure Cooking Sous Vide - Thomas Keller - Workman Publishing

The Vegetarian Bible - Sarah Brown - Reader's Digest Books

Gillian Riley The Oxford Companion to Italian Food, Oxford University Press

Peter Barham - The science of cooking, Springer

LIBRARIES IN FLORENCE

Please consult the posted schedules for official opening times of the university library. Also note that the library is for consultation only and it is not possible to borrow materials. The library is equipped with a scanner and internet access so that you may save or email a digital copy of the pages needed.

Students may also utilize additional libraries and research centers within the local community:

BIBLIOTECA PALAGIO DI PARTE GUELFA

Located in Piazzetta di Parte Guelfa between Piazza della Repubblica and Ponte Vecchio. Please consult the library website for hours of operation:

http://www.biblioteche.comune.fi.it/biblioteca_palagio_di_parte_guelfa/

BIBLIOTECA DELLE OBLATE

Located in via dell'Oriuolo 26. Please consult the library website for hours of operation:

www.bibliotecadelleoblade.it

THE HAROLD ACTON LIBRARY AT THE BRITISH INSTITUTE OF FLORENCE

Located in Lungarno Guicciardini 9. Please consult the library website for hours of operation. This library requires a fee-based student membership. For information: www.britishinstitute.it/en

6. FIELD LEARNING

Please consult your Official Registration for any mandatory field learning dates. Field Learning Activities cited in Official Registrations are an integral part of the course and also include an assignment that counts towards your final grade, details will be provided on the first day of class.

7. COURSE MATERIALS

Professional Cooking courses

(NOTE: STUDENTS MUST ALSO ADHERE TO KITCHEN RULES OUTLINED IN THE GANZO/FEDORA BOOKLET)

Professional cooking classes

1. All students are strictly required to attend class wearing a clean uniform: the jacket provided by the institution, black pants, apron (color depending on the CA level), safety footwear, a white Chef's hat, and a set of knives. Students with long hair should tie hair back before wearing the hat. Students are not allowed to wear rings, earrings or any other visible piercings, bracelets, watches, and nail polish during lab hours. Students who are not dressed properly will not be allowed in class.
2. All students must attend class fully prepared and on time. Late students will not be accepted.
3. Carefully wash hands at the beginning of each class, before food is handled.
4. During professional cooking classes only small food tastings are allowed as the main purpose of these courses is to develop technical skills. Students are not allowed to take food out of the kitchen.
5. Students are also required to participate in a polite and responsible way. Students are not allowed to sit on the working stations. Students who disturb lessons or are disrespectful to the instructor or the other students will be asked to leave the class. Serious infractions will be evaluated by the Academic Office.
6. Cooking classes will include various tasks which all students must carry out. Classes will include all different types of recipes and students are expected to actively participate in all lessons regardless of personal likes or dislikes.
7. Each student is responsible for washing all utensils used during class and keeping the working station clean and tidy, with all the utensils as listed in the station inventory. Two students at a time will tidy up the kitchen common areas during each class.
8. Students are responsible for kitchen utensils and maintenance of the equipment. The cost of a) any missing utensil b) damages due to student carelessness will be shared by all students.
9. No visits are allowed in class at any time.
10. The use of cellular phones is not allowed within the school building.

Should students wish to store materials or equipment, lockers are available with a deposit (given back after returning the key).

8. COURSE FEES

Course fees cover course-related field learning activities, visits, and support the instructor's teaching methodologies. Book costs are not included in the course fee. The exact amount will be communicated by the instructor on the first day of class.

9. EVALUATION – GRADING SYSTEM

10% Attendance

30% Class Participation and Assignments

20% Midterm Exam, Field Learning project (if applicable), Special/Research Project (if applicable), Practical Performance (if applicable)

20% Final Exam

20% Paper/Project

A = 93-100 %, A- = 90-92%, B+= 87-89%, B = 83-86%, B-=80-82%, C+ = 77-79%, C=73-76%, C- =70-72%, D = 60-69%, F= 0-59%, W = Official Withdrawal, W/F = Failure to withdraw by the designated date.

10. ATTENDANCE – PARTICIPATION

Academic integrity and mutual respect between instructor and student are central to the academic

policy and reflected in the attendance regulations. Student presence is mandatory and counts toward the final grade.

Absences are based on academic hours: 1 absence equals 3 lecture hours.

Two absences: 6 lecture hours, attendance and participation grade will be impacted.

Three absences: 9 lecture hours, the final grade may be lowered by one letter grade.

Four absences: 12 lecture hours, constitutes automatic failure of the course regardless of when absences are incurred.

Please note:

- The above hours refer to lecture hours. Please note that the contact / credit hour policy in the academic catalog includes additional distribution ratios according to delivery category. Ex: 1 absence equals 6 FL/SL/Lab hours or 9 EL hours.

- Hours may be distributed in different formats according to the academic course schedules.

LATE ARRIVAL AND EARLY DEPARTURE

Arriving late or departing early from class is not acceptable. Two late arrivals or early departures or a combination will result in an unexcused absence. Travel is not an exceptional circumstance.

TRAVEL (OR DELAYS DUE TO TRAVEL) IS NEVER AN EXCUSE FOR ABSENCE FROM CLASS.

It is the student's responsibility to know how many absences are incurred. If in doubt, speak with your instructor!

Participation: Satisfactory participation will be the result of contributing to class discussions by putting forth insightful and constructive questions, comments and observations. Overall effort, cooperation during group work, proper care of work space and tools, responsible behavior, and completion of assignments will be assessed. All of the above criteria also apply to Field Learning and site visits.

11. EXAMS – PAPERS – PROJECTS

Assignments

Students are asked to manage the kitchen with responsible behavior and abide by the HACCP guidelines and the rules included in the Fedora/Ganzo Booklet regarding kitchen management. Students are asked to collaborate in the purchasing, storing, and issuing of the ingredients necessary to provide the service related to the course activities and to manage the parties according to the teacher's indications.

Class participation and assignments account for the 30% of the final course grade.

Final Paper/Project

Format, guidelines and due dates will be available on the course website.

Material for research will be available at the university library.

The Final Project accounts for 20% of the course grade.

The **Final Exam** accounts for 20% of the final course grade and it consists of a written and a practical test. For exam time and date consult the course addendum. *The time and date of the exam cannot be changed for any reason.*

Format: the written exam is divided into three sections:

- Part I: 10 Multiple choice questions. Each correct answer is worth 2 points, for a total of 20 points.
- Part II: 6 short-answer questions. Each correct and complete answer (concise explanations, main ideas, key words, names, etc.) is worth 10 points, for a total 60 points.

- Part III: 1 essay question

The practical test will be decided by the Chef instructor. See information on the course addendum.
The Final Exam is cumulative.

12. LESSONS

Analysis of WACS statistical surveys about out-of-home food consumption

The consumers request for healthier food when dining out-of-home
A challenge for future chefs: matching the two concepts of nutritious and delicious

Philosophy of contemporary cooking: cutting-edge techniques, low fats, clear flavors

Contemporary cuisine and light cuisine: two faces of the same coin
Influence of nutritional awareness and social changes of the last decades on the slow transformation of eating habits
The development of culinary techniques in the last decades and the new approach to cooking

Philosophy of healthful cooking

- Seasonality at all costs
- Fresh VS processed ingredients
- Low/no fats
- Unsaturated VS Saturated fats
- Flavoring techniques
- Empowering classic light cooking techniques
- Apply the latest cooking techniques with an emphasis on health and wellness
- Food presentation

Pressure cooking

Description of the system, advantages and disadvantages - Applications of pressure cooker for flavor extraction
Readings TB pp. 28>33 - 83 - 121 - 122 - 126 - 130 - 182

Low-fat cooking

NOTE: Part of this topic is included in the Nutritional Cooking course syllabus as fundamental for the course treatise

Influence of modern nutrition on last decades cuisine - Contemporary gastronomy: genuine ingredients, flavors preservation

Traditional and contemporary examples of low-fat cooking

Application of ingredients combinations to guarantee dining pleasure in a low-fat cuisine

How to avoid fats during cooking and still be...happy: suggestions on how to obtain full flavor from fat-free cooking methods

Application of poaching, steaming, boiling and grilling

Survey of lean VS fat meat

Analysis of lean meat and suitable cooking methods

Survey of light VS fat cheese

Analysis of fat content in cheese

Cocoa butter

Vegetal fat, low cholesterol, high stability and high smoking point

Suitable applications

Readings TB pp. 91 – 168

https://www.nutritionvalue.org/Oil%2C_cocoa_butter_nutritional_value.html

Sous vide: introduction to the system

Definition and origins of sous vide system: packaging and cooking purpose

Necessary equipment

How it works

Cooking sous vide to reduce the use of fats

Focus on: nutritional advantages of sous vide cooking & flavors extraction with sous vide Suitable method to cook fish, meat and vegetables using sous vide technique

Extracting flavors: sous vide stock and infusions

Advantages of sous vide cooking from the professional chef perspective: how kitchen organization changes

Readings TB pp. 48>67 - 87 - 89 - 230>231 - 280>281

<https://www.sciencedirect.com/science/article/pii/S1878450X11000035>

https://www.researchgate.net/publication/223298031_The_sensory_and_nutritional_quality_of_%27sous_vide_%27_foods

http://www.foodauthority.nsw.gov.au/_Documents/scienceandtechnical/sous_vide_food_safety_precautions.pdf

The Smoking Process

Origins of smoking and chemistry behind the technique

Fundamentals of wood combustion - Role of humidity - Comparison among smokehouses

Suitable wood for smoking and safety recommendations

Hot and cold smoking: differences and applications

Smoking as a flavoring technique: how to enrich food flavor with wood, herbs, spices and nuts shells

Readings TB pp. 186>198

See additional material on the course website

https://www.fsis.usda.gov/wps/wcm/connect/61024ba8-d6ca-4557-9d11-1fab90d94894/Smoking_Meat_and_Poultry.pdf?MOD=AJPERES

Vegetable cuisine:

1. Texture, color and flavor

How to preserve color, taste, texture and nutrients when cooking vegetables

The use of chlorophyll for flavor and as a natural colorant

Use of herbs and spices in low-fat cooking

2. Flavor extraction

Contemporary techniques for surprising yet essential dishes - Use of vegetables compounds to obtain flavor and color concentration: application of modernist techniques

Application of extracted vegetable juices

3. Juicing

Slow juicer VS centrifuge - Suitable methods and suggestions for a more effective juice extraction

Application of fruit and vegetables juices to savory cuisine

4. Plant proteins: low cholesterol and low saturated fats

Understand how plant proteins can be an alternative in order to cut calories and serve nutritionally balanced meals

Soy products: focus on Tofu - Wheat proteins: focus on Seitan

Nutritional composition and suitable applications in the kitchen

Readings TB page 177 - 178 – 185

https://www.researchgate.net/publication/323676422_Tofu_technological_and_nutritional_potential

https://www.researchgate.net/publication/221916478_Soya_Human_Nutrition_and_Health
https://www.researchgate.net/publication/284893010_Soy_products_as_healthy_and_functional_foods
<https://urbanvegan.net/seitan-nutrition/>
<https://www.nutritionix.com/food/seitan>

Introduction to Marinades and Brines

Application of marinades and brines to add flavor for food to be served raw
Focus on acidic marinades & basic brines
Definition and chemistry - Effects on food
Methods and suitable concentrations of salt and acidity
Discover a simple way to enhance flavors without additional fats
Marinades and brines as flavoring methods prior to grilling, steaming, poaching

Readings

See additional material on the course website

https://www.fsis.usda.gov/wps/wcm/connect/13b7e6d5-9b36-4e6d-9312-f3cd27e3125c/Poultry_Basting_Brining_Marinating.pdf?MOD=AJPERES

Dehydration

Dehydration as a technique to modify and concentrate flavors without cooking - The use of powdered vegetables and fruits to play with flavors and textures

Readings TB pp. 132>139 - 223

Light desserts

Alternative cooking methods and ingredients for low-fat and low-cholesterol diet
Choosing low-fat alternative ingredients for light desserts production
Pastry classics re-invented
The importance of presentation and freshness for light desserts service

Readings

See additional material on the course website

Learning Outcomes

- Understand the concept of light cuisine and the potential application of contemporary cuisine for light cooking
- Understand that “light” does not mean “tasteless” and that “healthy, nutritious” can match with “delicious”
- Learn to develop a critical thinking when approaching to planning a light and healthy diet
- Understand the potential of pressure cooking in modern cuisine: canning, extraction, aromas preservation, concentration
- Learn the features of fats and the advantages for flavor and mouthfeel
- Become confident with low-fat cooking and understand how the effects of fats can be replaced by using alternative solutions
- Learn how to enhance flavors when steaming, boiling and grilling
- Understand how to maximize vegetables nutrients, texture and color
- Become confident with contemporary flavor extractions
- Learn how to extract color and flavors from vegetables
- Become confident with chlorophyll extraction to obtain a natural colorant
- Learn the potential uses of vegetables juices in savory cuisine
- Understand the advantages of sous vide cooking for a modern kitchen organization
- Learn how to use sous vide cooking to preserve flavors and nutrients
- Learn to use food flavors potential 100%

- Learn how scientific knowledge can turn into a useful “ingredient”
- Understand the purpose of smoking to add special flavors
- Learn how to apply smoking technique to a variety of ingredients
- Learn to apply brines and marinades for flavor to food to be served raw
- Become confident with dehydration technique to substitute cooking, obtain new textures and add flavors
- Learn alternative methods to prepare pastry classics
- Understand the concept of light pastry
- Become confident with alternative ingredients to reduce calories and fats intake in savory and sweet preparation