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SYLLABUS

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Florence University of the Arts (FUA) is an academic institution for study abroad in Florence, Italy. FUA collaborates with The American University of Florence (AUF), an international university offering US-style undergraduate and graduate degrees, in a cooperation to offer study abroad programs with a diverse breadth and depth of academic curriculum.

FUA study abroad programs may include AUF offerings, which are US-aligned in terms of higher education standards as per the university's institutional structure. Common courses offered by FUA and AUF have been jointly selected by both institutions as eligible for mutual recognition and delivery. As such, equal academic standards, credibility, and outcomes are vetted by the Academic Offices of the institutions for all courses and syllabi offered in the study abroad program.

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 foodservice 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 consists of experiential learning hours with our Community Engagement Member Institutions (CEMI). CEMI are dynamic learning environments created to foster learning through a structured interaction with the community. In addition to regular lecture hours, students will be involved in learning by doing through real projects and integration with the local population and territory in order to remove cultural and learning barriers as well as to develop a strong likelihood for success in life. The experiential learning hours are fully supervised by instructors who track students step by step during their learning experience, monitor and advise according to student needs, and support student initiative. This unique learning model allows students to benefit from an all-encompassing educational experience based on theory and practice in real enterprises, learning of comprehensive operational processes, problem-solving, leadership, and management.

2. OBJECTIVES

The course aims to strengthen students' knowledge of light recipes and contemporary cooking methods, with an emphasis on nutritionally balanced and mindful ingredient use.

By the end of the course, students will be able to:

- Define light cooking as a key aspect of contemporary cuisine.
- Develop light and contemporary-style recipes.
- Adapt traditional recipes by reducing fat and sugar content.
- Understand and apply sous-vide techniques for nutrient preservation and flavor extraction.
- Utilize smoking techniques to enhance flavor profiles.
- Incorporate flavoring strategies that avoid additional calories.
- Confidently combine flavors to optimize low-fat dish outcomes.

- Apply both classical and modernist methods of flavor extraction.
- Execute cooking techniques that minimize fat while maintaining flavor integrity.
- Explore the potential of pressure cooking in contemporary cuisine and assess its culinary impact.
- Employ plant-based and animal proteins to support reduced-calorie preparations.
- Master a range of “low-fat” cooking techniques suitable for modern kitchens.
- Apply marinating and brining methods for dishes 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 interaction with the local community. Mediums for instruction used will include, but are not limited to, interactive and hands-on activities which challenge thought processes, integrate relevant academic sources, may include multimedia references, propose creative problem-solving, and other appropriate forms of delivery as deemed appropriate to the course’s purpose.

5. TEXTBOOK – FURTHER READINGS – RESOURCES

TEXTBOOK (Copy available at the university library):

Modernist Cuisine at home - The Cooking Lab - 2012

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

The textbook is mandatory for course participation and completion. Where applicable additional materials may 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

LIBRARY

Course participants may access the campus library. Please consult the library site for resources such as collections, borrowing, scanning and wifi connection, and research:

<https://www.auf-florence.org/Library/the-library/>

6. COURSE MATERIALS

Professional Cooking/Baking&Pastry courses

(NOTE: STUDENTS MUST ALSO ADHERE TO KITCHEN RULES OUTLINED IN THE CEMI BOOKLET)

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).

7. 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. If this course requires a fee, the exact amount is communicated prior to enrollment.

8. GRADING AND EVALUATION & ATTENDANCE

10% Attendance

10% Class Participation

15% Assignments

15% Practical Performances

15% On-site Supervisor evaluation

20% Final Exam

15% Final Project

The above grade breakdown percentages reflect the grading scale standards in the "Grading and Evaluation System" section of the catalog.

Attendance

Class participation is mandatory. Based on the hours defined in the Academic Catalog's attendance policy, students may miss up to 2 class encounters delivered as lecture hours. A third absence constitutes a course failure.

Please note that absence hours may vary according to the learning methodology, as per the academic

catalog policy on credit hours:

https://catalog.auf-florence.org/standard_regulation

9. EXAMS / PROJECTS / ASSIGNMENTS

Final Exam: The final exam is divided into two sections:

Part I: written test

Part II: hands-on performance

The written test 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: 10 short-answer questions. Each correct and complete answer (concise explanations, main ideas, key words, names, etc.) is worth 5 points, for a total 50 points.

Part III: two essay questions; each correct and complete answer is worth 15 points (based on content, vocabulary, detail, etc.) for a total of 30 points.

No pencil allowed. Blue and black pens only.

The practical test will be defined by the Chef instructor.

Further details (guidelines, grading rubric, hands-on exam) are provided in the course portal.

The final exam is cumulative and will account for the 20% of the final grade breakdown.

The time and date of the exam cannot be changed for any reason.

Final Project: The final project accounts for 15% of the final course grade. The project details will be assigned the first day of class.

Assignments: This course requires at least 3 assignments as per the course outline in the syllabus.

Assignment 1: Students are required to **calculate the fat content of the session menu recipes** using the guidelines given by the Chef instructor and nutrients-calculation tools available online.

Assignment 2: Students are required to provide a **600-words research paper on one traditional dish of their home cuisine that can match with the definition “light”**.

Assignment 3: Students will be tasked with preparing **daily special dishes** to be served during meal services. They will work in pairs whenever possible and will receive specific guidelines and deadlines from the Chef instructor.

Further details are provided in the course portal.

10. COURSE OUTLINE

The below list of topics does not indicate a sequence.

1. Course introduction

Contemporary cuisine and light cuisine: two faces of the same coin

Nutritional awareness and social changes: impact on the transformation of eating habits and behaviors

The development of culinary techniques in the last decades and the new approach to cooking

Analysis of statistical surveys about out-of-home food consumption
The request for healthier food when dining out-of-home
A challenge: matching the two concepts of nutritious and delicious

Readings: See additional material on the course website

2. Culinary mindset

2.1 Philosophy of contemporary cooking:

Application of cutting-edge techniques

New textures

Update the tradition

Low fats

Clear and enhanced flavors

2.2 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

Readings: See additional material on the course website

3. Vocabulary of light cuisine

3.1 Lean VS Fat - Definition (and tricks) of the term “light”

Health and calories

3.2 Survey of lean VS fat meat

Analysis of lean meat and suitable cooking methods

3.3 Survey of light VS fat cheese

Analysis of fat content in cheese

3.4 Survey of lean VS fat fish/seafood

Analysis of fat content in fish and seafood

Readings: See additional material on the course website

4. Low-fat cooking

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

Traditional and contemporary examples of low-fat cooking

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

Readings: See additional material on the course website

5. Vegetables cuisine

5.1 Texture, color and flavor

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

Ingredients combinations to guarantee dining pleasure in a low-fat cuisine: application of spices, herbs and flavorful ingredients

5.2 How to extract chlorophyll

Application of chlorophyll for flavor and as a natural colorant

Readings

See materials on the course website

5.3 Dehydration

Dehydration as a technique to modify and concentrate flavors without cooking - Suitable application of powdered vegetables and fruits

Readings TB pp. 132>139 - 223

5.4 Juicing

Application of fruit and vegetables juices to savory cuisine

5.5 Cocoa butter

Definition and nutritional facts

High stability and high smoking point

Advantages of cocoa butter application to cooking

Readings: Modernist Cuisine at Home pp. 91 – 168

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

6. Pressure cooking

Description of the system, advantages and disadvantages

Application of pressure cooker for flavor extraction: cooking stocks and vegetables in the pressure cooker

Readings: Modernist Cuisine at Home pp. 28>33 - 83 - 121 - 122 - 126 - 130 - 182

7. Sous vide: introduction to the system

Definition and origins of sous vide system: packaging and cooking purpose - How sous vide cooking works - Necessary equipment

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

7.1 Nutritional advantages of sous vide cooking & flavors extraction with sous vide - Cooking sous vide to reduce the use of fats

7.2 Suitable method to cook fish, meat and vegetables using sous vide technique:

Extracting flavors: sous vide stock

Protein stabilization with sous vide

Instant pickling

Readings: Modernist Cuisine at Home 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 sous vide foods

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

8. 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

8.1 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

9. Introduction to Marinades and Brines

Marinades and brines as flavoring methods

Enhancing flavors without additional fats

Application of marinades and brines to food to be served raw

9.1 Marinades

Definition and chemistry - Effects on food

Focus on: acidic and alcoholic marinades - Acidity concentration

9.2 Brines

Definition and chemistry - Effects on food

Suitable salt concentrations

Concentration VS equilibrium brine

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

Learning Outcomes

- Define light cuisine and evaluate its applications within contemporary culinary practice.
- Recognize that “light” does not mean “tasteless,” and that health, nutrition, and flavor can coexist.
- Apply critical thinking to the planning and execution of light, balanced diets.
- Assess the potential of pressure cooking in modern cuisine, focusing on canning, extraction, aroma preservation, and flavor concentration.
- Understand the functional role of fats in flavor and mouthfeel, and employ alternative methods to replicate their sensory effects in low-fat preparations.
- Enhance flavor development during steaming, boiling, and grilling.
- Apply smoking techniques to diverse ingredients, identifying their purpose in flavor enrichment.
- Employ brining and marinating methods for foods served raw or cold.
- Apply dehydration to substitute conventional cooking, create new textures, and intensify flavors.
- Utilize sous-vide cooking both as a technique for flavor and nutrient preservation and as a tool for modern kitchen organization.
- Maximize nutrient retention, texture, and color in vegetable cookery.
- Perform contemporary flavor extractions from vegetables.
- Extract chlorophyll to produce natural green colorants.
- Apply vegetable juices as functional components in savory cuisine.
- Distinguish the use of plant vs. animal proteins to support reduced-calorie preparations.
- Employ scientific principles as functional “ingredients” in culinary innovation.
- Apply advanced methods to achieve 100% flavor potential of ingredients.