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SCHOOL OF FOOD AND WINE STUDIES
DEPARTMENT OF BAKING AND PASTRY
COURSE TITLE: CHOCOLATE ARTISTRY
COURSE CODE: FWBPCA450
3 semester credits

1. DESCRIPTION

This course will give students knowledge of the fundamentals of chocolate starting from an understanding of the ingredient, its history and evolution throughout centuries.
The course will cover the chocolate production process from harvest to the finished product, and will focus on the composition of chocolate in all its different types: dark, milk and white. Students will understand the differences between different cocoa percentage in chocolate and their suitable applications in pastry. Emphasis will be placed on basic chocolate tempering techniques, on chocolate bar production, and on the application of special molds for simple pralines and small centerpiece production. The course will also focus on the use of chocolate to create different ganaches, including matching them with the suitable type of pralines or desserts. Students will learn to use traditional and contemporary production methods when creating confections, both by hand and with special equipment.

2. OBJECTIVES

By the end of the course, students will be able to:
Identify and properly use the basic tools and equipment used in a chocolate lab. Explain the history of cocoa. Know and identify the features and taste of chocolate. Recognize the functions of various ingredients used in the production of chocolate items, and to produce, preserve, and use a variety of chocolate-based products.
Special attention will be placed on ganache production with a deep analysis of all different production techniques and suitable applications. Students will practice pralines and molded chocolate shapes production to obtain the basic knowledge needed for the future steps of chocolate artistry. The course will also focus on chocolate Easter eggs and techniques related to production

3. REQUIREMENTS

Baking Techniques I 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):
The Art of Chocolatier - from classic confection to sensational showpieces - Edwald Notter - John Wiley and Sons
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

On Baking: A textbook of baking and pastry fundamentals - 3th edition - Pearson
Labensky, Martel, Van Damme
On Food and Cooking - Harold McGee
How Baking Works: Exploring the Fundamentals of Baking Science, Paula I. Figoni
The Professional Pastry Chef - Frinberg B - Wiley
Professional Baking - Gisslen W. 3rd Edition Bruni Benson A. - Solo Dolci: The Italian Dessert Cookbook

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

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
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

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.
Further details (guidelines, grading rubric,…) are provided in the course portal.

The final exam is cumulative and will account for 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 20% of the final course grade. The project details will be assigned on the first day of class.

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

Assignment #1: Chocolate Composition. Due by Lesson 4.

Assignment #2: Industrial VS Artisanal Chocolate Production. Due by Lesson 7.

Assignment #3: Ganaches and Praline Pairings. Due by Lesson 10.

Further details are provided in the course portal.

10. COURSE OUTLINE

Lesson 1	
Meet	In class
Lecture	Introduction to the course History of cocoa Structure of the cocoa fruit - Fermentation - Drying - Selection of pods Chocolate production process: The varieties of cocoa and chocolate Criollo, Forastero, and Trinitario - Monovarietal, Blend, and Pure Origin Different cocoa mass and cocoa butter percentage: white, milk, and dark chocolate-Extraction of cocoa butter and cocoa mass - Suitable uses of different types of chocolate
Objectives	Understand the composition of cocoa fruit - Understand the effect of fermentation on cocoa flavor - Understand the importance of the chocolate production process and its effects on the final flavor-Learn the balancing formulas to produce chocolate with different cocoa mass percentage - Understand how cocoa butter is extracted - Understand how cocoa butter content modifies the density of chocolate - Learn the suitable applications of different types of chocolate
Visit/Lab	Documentary on chocolate - Experience a real cocoa cabosse - Chocolate tasting
Readings/ Assignments	Read text book pp. 6-10 **Assignment #1 Chocolate Composition assigned. Due by Lesson 4.**

Lesson 2	
Meet	In class

Lecture	Chocolate tempering The purpose of chocolate tempering - Crystallization of cocoa butter - How chocolate tempering influences the optimal result of the final product Tempering methods: tabling, microwave, seeding, direct, powdered cocoa butter. Focus on the first three - Suitable chocolate for bar production
Objectives	Learn the purposes of tempering - Understand the crystallization of cocoa butter. Learn the different tempering methods and practice tabling - Understand how the tabling tempering method works - Learn which chocolate is suitable for bar production – Gain confidence with chocolate bar production
Visit/Lab	Tabling methods: focus on tabling - Chocolate bars
Readings/ Assignments	Read text book pp 40/57

Lesson 3	
Meet	In class
Lecture	Chocolate shells for pralines The importance of chocolate density: cocoa mass and cocoa butter content-Application of chocolate for molding - Chocolate modeling in special molds-Molding techniques
Objectives	Learn which types of chocolate are suitable for shells production - Understand how cocoa mass content modifies the final flavor - Understand how chocolate density affects the final result - Gain confidence with the necessary steps for the production of shells
Visit/Lab	Application of chocolate tempering for praline shell production - Praline shells
Readings/ Assignments	Read the textbook pp. 170-193 **Assignment #2 Industrial VS Artisanal Chocolate Production assigned. Due by Lesson 7.**

Lesson 4	
Meet	In class

Lecture	**Ganache for pralines 1** Ganache definition and classifications - Ganache shelf-life: free water percentage, Chocolate content in the ganache - Application of flavorings to ganache - Types of ganache bases: syrup, water, and fat based - Different types of ganache for different types of pralines - Make-up methods: slabbed, truffles, piped, molded-Focus on molded pralines- **Ganache for pralines 2** Ganache definition and classification - Ganache shelf-life: free water percentage, Chocolate content in the ganache - Application of flavorings to ganache - Types of ganache bases: syrup, water, and fat-based ganache - Different types of ganache for different types of pralines – Production methods: slabbed, truffles, piped, molded-Focus on truffle and slabbed praline - History of chocolate truffles-Suitable chocolate for truffles and slabbed pralines - Characteristics and application of different chocolates
Objectives	Understand the ganache production process - Understand how to extend the ganache shelf-life - Understand the suitable types of ganache for different types of pralines-Understand what type of chocolate is suitable for the different production methods-Learn how to balance the different ganache bases (heavy cream, syrup, and water)-Understand the characteristics of ganache for truffles and slabbed pralines production Learn truffle production method - Understand how to balance ganache and flavorings
Visit/Lab	**Molded pralines** Syrup-based ganache: Apricot praline Heavy Cream-based ganache: Coffee praline Water-based ganache: Mint praline- Syrup-based ganache: Apricot praline - Heavy Cream-based ganache: Coffee praline Water-based ganache: Mint praline **Slabbed pralines and Truffles** Syrup-based ganache: Lemon praline - Heavy cream-based ganache: Caramel truffle Water-based ganache: Earl Grey Tea praline
Readings/ Assignments	Read textbook pp 116/123-181-193/194-202/203 **FINAL PROJECT OVERVIEW.** **Assignment #1 Due**

Lesson 5	
Meet	In class

Lecture	**Ganache for pralines 3** Ganache definition and classification - Ganache shelf-life: free water percentage Chocolate content in the ganache - Application of flavorings to ganache - Types of ganache bases: syrup, water and fat-based ganache - Different types of ganache for different types of pralines - Production methods: slabbed, truffles, piped, molded Focus on Piped pralines-Alternative fats: nuts in the ganache formulas - Tools for piped praline production
Objectives	Understand how to balance ganache formulas for piped pralines - Understand how to balance water content in the ganache - Understand how to apply alternative fat in the ganache - Gain confidence with piping bag and other suitable tools
Visit/Lab	Piped pralines Syrup-based ganache: Pineapple praline Heavy cream-based ganache: Hazelnut praline
Readings/ Assignments	Read textbook book pp146-195/196

Lesson 6	
Meet	In class
Lecture	Spreadable chocolate creams Definition of spreadable chocolate creams - Types of fat and fat balancing Balancing formulas for spreadable creams - Application of ingredients in spreadable creams: nuts, cocoa, liqueurs, cookies - Free water content and shelf-life - Preservative ingredients: alcohol, sugar and fat - History of Nutella
Objectives	Learn the history of spreadable creams: focus on Nutella - Understand how to balance ingredients in the recipe - Understand flavors application to spreadable creams- Understand how fat content modifies perception of flavors and mouthfeel-Understand how to balance free water in the recipe - Understand how the preservative ingredients modify texture, flavor, and shelf life
Visit/Lab	Spreadable creams with: Langhe hazelnuts - white chocolate coffee and cookies - cocoa - chocolate and rum
Readings/ Assignments	Teacher material available on myfua

Lesson 7

Meet	In class
Lecture	Chocolate modeling 1 - Cut-out chocolate shapes Choosing the theme - First sketches: drawing the shape - Chocolate application:suitable types of chocolate with different fat content - Color and texture: application techniques
Objectives	Understand how to apply a theme to the creation of chocolate cut-out shapes - Learn cut-out technique - Understand how to balance color in chocolate - Understand the importance of chocolate tempering for color application - Understand how to draw the shape as a first fundamental step for a successful creation
Visit/Lab	Creation of a small centerpiece - Part 1 - Double chocolate layer and bent shapes
Readings	Read textbook pp 248/256 See additional material on the course website **Assignment #2 Due** **Assignment #3 Ganaches and Praline Pairings assigned. Due by Lesson 10.**

Lesson 8	
Meet	In class
Lecture	Chocolate modeling 2 - Molded chocolate shapes Choosing the theme - First sketches: drawing the shape - Chocolate: characteristics and density for chocolate modeling - Gelatin mold preparation: the use of glucose Color: cocoa butter application
Objectives	Understand how chose the theme (seasonality) Understand how chose color and apply it to the chocolate Understand how make a gelatin mold Understand how use the gelatin mold Understand how finish the chocolate sculpture
Visit/Lab	Creation of a small centerpiece - Part 2 - (theme given by instructor)
Readings	Read text book pp 242/247 See additional material on the course website

Lesson 9	
Meet	In class

Lecture	Chocolate modeling 3 - Assembly of the centerpiece Preservation: chocolate humidity content and storage temperature, depending on centerpiece destination - Assembling techniques - Cocoa butter application for finishing
Objectives	Understand how to store the chocolate works - Understand how humidity, light, smell and temperature modify the flavor - Understand how to assemble chocolate shapes-Understand how to apply cocoa butter for preservation
Visit/Lab	Assembly and presentation of the centerpiece
Readings	Text book pp 242/247 - 248/256 FINAL PROJECT DUE

Lesson 10	
Meet	In class
Lecture	Easter Eggs Application of the techniques for molded chocolate shapes to Easter egg production-Suitable chocolate for Easter eggs and molded shape production - Theme choice - Collection planning - Style definition
Objectives	Understand the theme choice - Understand how to create a collection Learn the suitable chocolate to make Easter eggs - Understand the importance of the type of chocolate for the destination of the creation Understand how apply cocoa butter color on the Easter eggs
Visit/Lab	Easter Eggs - Instructor collection
Readings	Read text book pp 242/247 Assignment #3 Due

Lesson 11 Final Exam	
Meet	In class
Lecture	FINAL EXAM