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Syllabus revised 2018

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SCHOOL OF FOOD AND WINE STUDIES
DEPARTMENT OF BAKING AND PASTRY
COURSE TITLE: BAKING TECHNIQUES I
COURSE CODE: FWBPBT320
3 semester credits

1. DESCRIPTION

This course introduces students to baking and pastry fundamentals through an analysis of the features and functions of the main pastry ingredients. The course starts with a complete overview of eggs, flour, fats, sugar, and dairy products in order to create a basis on which all future courses will develop. Students will approach the basic mixing and cooking methods in order to understand the baking process with all its possible variations. Special emphasis will be placed on short crust pastry, pate-choux, enriched dough, and stirred custards. Upon successful completion of the course, students will gain confidence in the production of sponge cake, pound cake, pastry and English cream, and basic short crust dough. Students will be able to describe and produce the main meringues.

2. OBJECTIVES

This is an introductory course of great importance for the future development of students' knowledge and skills. The aim of course is to provide students with the fundamental technical skills that will be applied in future courses.

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

- Demonstrate how to properly use equipment, identify products, apply scaling and measuring techniques, access baking temperatures, employ mixing and cooking methods
- Describe the properties and functions of various ingredients used in the production of pastry items
- Identify different types of flours and understand their suitable applications to pastry
- Identify different types of sweeteners and fats
- Describe the features of butter and its importance in many of the processes
- Describe the features of eggs and sugar, and their purposes in baking and pastry applications
- Employ basic mixing methods: creaming and foaming
- Demonstrate confidence with pastry fundamentals such as short crust pastry, eclaire paste, enriched yeast doughs, sponge cakes and genoise
- Demonstrate proper methods to produce stirred custards

Demonstrate techniques to prepare Italian, Swiss and French meringue

3. REQUIREMENTS

There are no prerequisites for this course.

4. METHOD

This course consists of lectures, class discussions, and projects. Mediums for instruction used may 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 (Copy available at the university library):

On Baking: A textbook of baking and pastry fundamentals - 3th edition - Pearson
Labensky, Martel, Van Damme
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

How Baking Works: Exploring the Fundamentals of Baking Science, Paula I. Figoni
Frinberg B. The Professional Pastry Chef, Wiley
Gisslen W. Professional Baking, 3rd Edition
Bruni Benson A. Solo Dolci: The Italian Dessert Cookbook
Galli F. The Fornaio Baking Book: Sweet and Savory Recipes from the Italian Kitchen

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.bibliotecadelleoblate.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
1. All students are strictly required to attend class wearing a clean uniform: the jacket provided by the school, 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.

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

This course includes the evaluation of practical performances, that refers to all hands-on activities held during class and accounts for the 20% of the course grade.

The final **Paper/Project** accounts for 20% of the course grade.

- Format: topic, length, guidelines, and due date will be provided on the course website
- Material for research will be available in the University Library in Corso Tintori 21.

The Final exam accounts for 20% of the final course grade.
For exam time and date consult the course website.
The time and date of the exam cannot be changed for any reason.

The Final Exam consists of:

- A written test
- A 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.

The Final Exam is cumulative
No pencil allowed. Blue and black pens only.

12. LESSONS

Lesson 1	
Topic	**Introduction to the course** Introduction to equipment, tools and ingredients Mixing and cooking methods **Eggs 1: structure, proteins coagulation, foaming**

Lab	Teacher Demo - Foaming yolk, albumen and whole egg
Objectives	Understand what is a pastry brigade - Learn to work in a professional environment - Understand the HACCP Protocol - Identify the main ingredients used in a pastry lab - Understand the features of eggs from the embryo stage to the coagulation process – Establish that the only way to control coagulation is temperature control - Learn mixing methods to obtain a good egg foaming (white and yolk)
Assignment	Textbook Ch. 1-2-3-4-5

Lesson 2	
Topic	Fats: focus on butter History and cultural background of butter consumption Butter production process Differences among butters and other fats used in pastry The purpose of fats in baking and pastry
Lab	Teacher Demo - Butter production in class
Objectives	Understand butter production process and the differences between various types of butter - Understand the evolution of butter for pastry purposes - Identify the type of fats that were used in the past - Understand the evolution of pastry and pastry ingredients - gain confidence with the use of fats
Assignment	Textbook Ch. 4

Lesson 3	
Topic	Sugar History of sugar production and diffusion - Structure, purpose, reactions with other ingredients - Caramelization
Lab	Teacher Demo - Test different stages of cooked sugar
Objectives	Learn the history of sugar diffusion - Learn about the sugar production process - Understand how the use of sugar instead of honey greatly influenced pastry and baking production, and created a "taste" revolution - Identify the role of sugar in the various pastry preparations - Define caramelization
Assignment	Textbook Ch. 4

Lesson 4	
Topic	Flour Sources, production process and features of flour Leavening agents: yeast, chemical agents (baking soda, baking powder, cream of tartar) Application of leavening agents in pastry: suitable agents according to the different preparations

Lab	Teacher Demo – Test reactions of leavening agents
Objectives	Know and recognize the various flours used for pastry and baking - Learn the different structures of flour types - Learn the correct application of flours according to their structure - Learn the features of modern flour blends Define varieties of leavening agents - Identify leavening agents commonly used in pastry and baking - Learn which leavening agent applies to a specific preparation
Assignment	Textbook Ch. 3-4

Lesson 5	
Topic	Dairy products & Milk Definition of dairy products: differences between fresh and fermented - Structure, purposes and suitable uses in pastry - Role of milk/cream in the baking process and in the preparation of custards
Lab	Teacher Demo - Test of a variety of different animal and alternative milks, heavy cream, and fermented dairy products
Objectives	Understand the classification of dairy products - Learn their purpose in baking and pastry and the interaction with eggs in custards production - Know the history of dairy products and their diffusion - Learn about possible intolerances connected with dairy products and the suitable solutions
Assignment	Textbook Ch. 3-4

Lesson 6	
Topic	Stirred custards Definition of stirred custards - Eggs coagulation when egg is mixed with a liquid - Pasteurization - Basic methods and techniques - Applications of stirred custards
Lab	Pastry Cream, Creme Anglaise, Zabaione
Objectives	Understand the definition and composition of stirred custards - Understand egg coagulation when mixed with liquids - Understand the concept of pasteurization when applied to stirred custards - Learn the purposes of stirred custards and possible applications - Experience the production of various types of stirred custard and identify how to solve problems in case of mistakes
Assignment	Textbook Ch. 3-4-14

Lesson 7	
	MIDTERM EXAM

Lesson 8

	ACADEMIC BREAK

Lesson 9	
Topic	Meringues Definition of meringue - Soft & hard meringues - Egg white foaming: methods of incorporating sugar - Stabilizing meringues Focus on Italian, French and Swiss meringues and their possible applications
Lab	Italian, French and Swiss meringue
Objectives	Define meringues and their applications in pastry - Understand how to stabilize egg white foam - Learn the method to incorporate sugar in meringues - Experience meringues baking: understand the temperature settings
Assignment	Textbook Ch. 3-4-12

Lesson 10	
Topic	Basic doughs - Short crust pastry Definition of short crust pastry: pate sucrée, brisée, sablée - Suitable mixing methods - Focus on low gluten flours and the role of butter and sugar - Basic formulas and measurements
Lab	Pate Sucree, Pate Brisee, Pate Sablee - Production and cooking
Objectives	Define short crust pastry - Know which flours are suitable for the preparation - Understand the different mixing methods and the different purposes - Learn the basic formulas - Learn step by step preparation methods of the three varieties of short crust pastry - Understand the proper cooking time for the different doughs in order to get the best results - Identify how to solve problems in case of mistakes
Assignment	Textbook Ch- 4-11

Lesson 11	
Topic	Basic doughs - Pate choux / Eclair paste Definition and history of pate choux - Mixing and cooking methods - Reasons for the double cooking of pate choux: focus on low gluten flours and the importance of starches gelatinization in the process - Role of ingredients in the preparation - Basic formula and measurements - Purpose of pate choux and applications in pastry
Lab	Eclairs and “bignè”
Objectives	Define pate choux and understand its structure - Understand the role of ingredients in the preparation - Understand why choux dough needs to be cooked twice - Understand starch gelatinization and learn how to manage it - Learn to cook beignets and understand the importance of size during cooking Understand beignets shelf-life - Know the history and diffusion of pate choux

Assignment	Textbook Ch- 4-12

Lesson 12	
Topic	Basic doughs The baking process - Mixing and cooking methods Cakes: foaming method - Spongecakes 1 Egg foaming as one of the two main mixing methods - Reaction of foamed eggs when heated - Cooking techniques - Role of ingredients in the process Focus on low gluten flours, eggs foaming with sugar and emulsification Differences between classic sponge cake/pan di Spagna and genoise: foaming raw or heated eggs
Lab	Classic sponge cake - Classic genoise
Objectives	Understand what a "sponge" cake is and its various applications in baking and pastry - Understand the structure of sponge cakes and the purpose of each ingredient in the process - Learn to respect the process to obtain a perfect sponge - Understand the purpose of heating eggs before foaming in the classic genoise
Assignment	Textbook Ch. 3-4-13

Lesson 13	
Topic	Basic doughs The baking process - Mixing and cooking methods Cakes: creaming method – Pound cake and similar Butter creaming as one of the two main mixing methods - Reaction of creamed butter in cooking - Focus on low gluten flours, butter creaming and emulsification of eggs, butter and sugar - Role of all ingredients in the process
Lab	Pound cake and similar
Objectives	Define creaming method and the reaction of ingredients in the process - Understand the required procedure to obtain the best result - Learn how to choose flour to prepare a pound cake - Understand the concept of emulsification
Assignment	Textbook Ch.3-4-13

Lesson 14	
Topic	Basic doughs - Enriched yeast doughs Definition of enriched yeast doughs - Production process: mixing, forming, proofing and baking - Focus on high gluten flour, yeast and fermentation - Role of ingredients in the preparation - Application in pastry
Lab	Brioche – Deep-fried doughnuts - Krapfen

Objectives	Define enriched yeast doughs - Learn the production process and the reason for the different steps - Understand the role of high gluten flour and of the other ingredients during the process - Understand the positive and negative effects that high gluten flour might have on a dough
Assignment	Textbook Ch. 4-8

Lesson 15	
	FINAL EXAM