

**CENTRAL TEXAS
COLLEGE PSTR 1301
FUNDAMENTALS OF BAKING**

Semester Hours Credit: 3

INSTRUCTOR: _____

OFFICE HOURS: _____

I. INTRODUCTION

- A. Fundamentals of baking include dough, quick breads, pies, cakes, cookies, and tarts. Instruction in flours, fillings, and ingredients. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the evaluation of baked products.
- B. This course, PSTR 1301, Fundamentals of Baking, is a required course in the Baking and Pastry Specialization Degree, Restaurant and Culinary Management Degree, Culinary Arts Degree, Culinary Arts Certificate of Completion, Restaurant Skill Certificate of Completion, Restaurant Operations Certificate of Completion and the Baking Certificate of Completion. PSTR 1301 is also an elective for the Institutional Food Service Operations certificate of completion.
- C. This course is occupationally related and serves as preparation for jobs in baking, cake decorating, and food preparation.
- D. Prerequisite: None

II. LEARNING OUTCOMES

Upon successful completion of this course, PSTR 1301 Fundamentals of Baking, the student will be able to:

- A. Discuss the origins of the baking and pastry profession. **(C5, F1, F2, F6)**
- B. Describe the attributes a student chef needs to become a professional. **(C5, F1, F2, F6)**
- C. Recognize a variety of professional bakeshop tools.
- D. Identify and describe the basic baking, mixing, and cooking methods employed in the bakeshop. **(C5, F1, F2, F6)**

- E. Describe the science of taste and basic flavor principles. **(C5, F1, F2, F6)**
- F. Identify different types of products used in the bakeshop. **(C5, F1, F2, F11)**
- G. Explain the importance of weighing baking ingredients. **(C3, F3, F4, F11)**
- H. Demonstrate the use of a bakers scale. **(C3, F3, F4, F11)**
- I. Convert and cost recipes. **(C3, F3, F4, F11)**
- J. Explain the controlling factors in the development of gluten in baked products. **(C3, F3, F4, F11)**
- K. Describe the characteristics and functions of major baking ingredients. **(C3, F3, F4, F11)**
- L. Describe the use chemical leavening agents properly. **(C5, F1, F2, F6)**
- M. Prepare a variety of quick breads using the biscuit, muffin, and creaming methods. **(C3, F3, F4, F11)**
- N. Perform the 10 steps involved in yeast bread production. **(C5, F1, F2, F6)**
- O. Prepare a variety of yeast breads to include artisan. **(C3, C5, F1, F2, F6)**
- P. Describe the mixing and handling requirements for making enriched yeast breads. **(C5, F1, F2, F6)**
- Q. Describe the steps and techniques for preparing and baking laminated dough. **(C5, F1, F2, F6)**
- R. Prepare a variety of pastries using laminated dough and other components. **(C3, C5, F1, F2, F6)**
- S. Prepare a variety of cookie doughs and batters. **(C3, C5, F1, F2, F6)**
- T. Assemble a variety of decorated cookies and brownies. **(C3, C5, F1, F2, F6)**
- U. Form and bake a variety of pies and tarts. **(C3, C5, F1, F2, F6)**
- V. Explain the functions of ingredients used to make cakes. **(C5, F1, F2, F6)**
- W. Explain basic cake finishing and decorating techniques. **(C5, F1, F2, F6)**
- X. Explain the functions of eggs in custards and creams. **(C5, F1, F2, F6)**
- Y. Prepare a variety of custards, creams, and fillings. **(C3, C5, F1, F2, F6)**

- Z. Demonstrate the still-freezing method for preparing frozen desserts. **(C3, C5, F1, F2, F6)**
- AA. Recognize dietary conditions that affect today's consumers. **(C5, F1, F2, F6)**
- AA. Demonstrate how to assemble and decorate a variety of specialty cakes. **(C3, C5, F1, F2, F6)**
- BB. Demonstrate the serving and presenting of petit fours and confections. **(C3, C5, F1, F2, F6)**
- CC. Recognize key considerations that go into planning a dessert menu. **(C5, F1, F2, F6)**
- DD. Describe the various procedures for tempering chocolate. **(C5, F1, F2, F6)**

III. INSTRUCTIONAL MATERIALS

- A. The instructional materials identified for this course are viewable through www.ctcd.edu/books
- B. CTC Handout: Fundamental of Baking, Assignment Standards
- C. Additional references may be required that are available in the Central Texas College library

IV. COURSE REQUIREMENTS

- A. Reading Assignments: Read text assignments prior to class and be prepared to discuss the text material, answering instructor questions orally with well-organized thoughts and ideas. **(F1, F4, F5, F11, C3)**
- B. Class Attendance: (Refer to CTC Catalog, Page 43, for detailed policy). You are expected to attend each class period, be on time and stay the full class period or are counted absent. You are responsible for all course material missed due to absence. The instructor does not provide class notes for classes missed. **(F1, F4)**
- C. A student must be present for all examinations. No makeup examinations will be given.
 - 1. Students who know in advance they will be absent from an examination due to valid reasons must arrange to take an early examination. Unexpected absences due to illness or extenuating circumstances will require the student to see the instructor about individual make-up work in lieu of the missed examination.

- D. Students without excused absences will be given a zero for the examination missed.
- E. Equipment: The following equipment is required for this course;
 - 1. 1 each, long sleeve classic chef jacket with CTC logo
 - 2. 1 each, black and white check or houndstooth chef pants
 - 3. 1 each, CTC logo cap
 - 4. 1 each, white, bib apron
 - 5. 1 pair black safety shoes (slip resistance)
 - 6. 1 basic pocket calculator

V. EXAMINATIONS

- A. There will be three examinations.
 - 1. Exam 1 (Mid-Term)
 - 2. Exam 2 (Final Exam)
 - 3. National Restaurant Association Baking Certification Test
- B. A student must be present for all examinations. No make-up examinations will be given. Students who know in advance that they will be absent from an examination due to valid reasons must arrange to take an early examination. Unexpected absences due to illness or extenuating circumstances will require the student to see the instructor about individual make-up work in lieu of the missed examination.
- C. Students without excused absences will be given a zero for the missed examination.
- D. The instructor will publish specific examination dates and will give an in-class review concerning the nature and type of test questions to be given.

VI. SEMESTERGRADECOMPUTATIONS

A.	Exam 1 (Mid-Term)	100 points
	Exam 2 (Final Exam)	150 points
	Quizzes (8 @ 25 pts, 1 @ 50 pts)	250 points
	Lab Exercises	350 points
	Written Assignments	<u>150 points</u>
	Total Points	1000 points

A (1000 – 900) **B** (899 – 800) **C** (799 – 700) **D** (699 – 600) **F** (Below 600)

- B. A student must take the final examination to receive a grade for this course.

VII. NOTES AND ADDITIONAL INSTRUCTIONS FROM COURSE INSTRUCTOR

A. Course Withdrawal: It is the student's responsibility to officially withdraw from a class if circumstances prevent attendance. Any student who desires to, or must,

officially withdraw from a course after the first scheduled class meeting must file a Central Texas College Application for Withdrawal (CTC Form 59). The Withdrawal form must be signed by the student.

CTC Form 59 will be accepted at any time prior to Friday, the 12th week of classes during the 16-week fall and spring semesters. The deadline for sessions of other lengths is:

- Friday of 3rd week for 5-week courses
- Friday of 4th week for 6-week courses
- Friday of 6th week for 8-week courses
- Friday of 7th week for 10-week courses
- Friday of 9th week for 12-week courses
- Friday of 12th week for 16-week courses

The equivalent date (75% of the semester) will be used for sessions of other lengths. The specific last day to withdraw is published each semester in the Schedule Bulletin.

A student who officially withdraws will be awarded the grade of "W", provided the student's attendance and academic performance are satisfactory at the time of official withdrawal. Students must file a withdrawal application with the College before they may be considered for withdrawal.

A student may not withdraw from a class for which the instructor has previously issued the student a grade of "F" or "FN" for nonattendance.

- B. Administrative Withdrawal: An administrative withdrawal may be initiated when the student fails to meet College attendance requirements. The instructor will assign the appropriate grade on CTC Form 59 for submission to the registrar.
- C. Incomplete Grade: The College catalog states, "An incomplete grade may be given in those cases where the student has completed the majority of the course work but, because of personal illness, death in the immediate family, or military orders, the student is unable to complete the requirements for a course..." Prior approval from the instructor is required before the grade of "I" is recorded. A student who merely fails to show for the final examination will receive a zero for the final and an "F" for the course.
- D. Cellular Phones and Beepers: Cellular phones and beepers will be turned off while the student is in the classroom or laboratory.
- E. Americans with Disabilities Act (ADA): Disability Support Services provides services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Review the website at www.ctcd.edu/disability-support for further information. Reasonable

- Accommodations, in accordance with federal and state laws, will be given through the DSS office.
- F. Students requiring accommodations for disabilities are responsible for notifying the instructor. Reasonable accommodations will be granted in full compliance with federal and state law and Central Texas College policy.
- G. Instructor Discretion: The instructor reserves the right of final decision in course requirements.
- H. Civility: Individuals are expected to be cognizant of what a constructive educational experience is and respectful of those participating in a learning environment. Failure to do so can result in disciplinary action up to and including expulsion.
- I. Honesty and Integrity: All students are required and expected to maintain the highest standards of scholastic honesty in the preparation of all course work and during examinations. The following will be considered examples of scholastic dishonesty:
1. *Plagiarism*: The taking of passages from writing of others without giving proper credit to the sources.
 2. *Collusion*: Using another's work as one's own; or working together with another person in the preparation of work, unless joint preparation is specifically approved in advance by the instructor.
 3. *Cheating*: Giving or receiving information on examinations.

Students guilty of scholastic dishonesty will be administratively dropped from the course with a grade of "F" and will be subject to disciplinary action.

VIII COURSE OUTLINE

- A. **Unit One**: Chapters 1 and 2 Professionalism: Tools and Equipment for the Bakeshop.
1. **Unit Objectives**: Upon successful completion of this unit, the student will be able to:
- a. Discuss the origins of the baking and pastry professions.
 - b. Describe the evolution of the professional restaurant and bakeshop.
 - c. Explain the organization of the professional kitchen brigade.
 - d. Describe the attribute a student chef needs to become a professional.
 - e. Recognize how to maintain a safe and sanitary work environment.
 - f. Recognize a variety of measuring and portioning devices.
 - g. Recognize the types of strainers and sieves.
 - h. Recognize the type of cookware and bakeware.
 - i. Recognize major equipment used in the bakeshop.
 - j. Recognize heavy equipment used in the bakeshop.

- k. Recognize safety equipment used the bakeshop.
- l. Recognize how a professional bakeshop is organized.

2. Learning Activities:

- a. Classroom lecture/discussion (**F1, F4**)
- b. Homework and other assignments designated by the instructor (**F1,F4**)

B. Unit Two: Chapters 3, 4, and 5 Principles of Baking: Bakeshop Ingredients: and Mise En Place.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Describe the various mixing methods used in the bakeshop and the importance of gluten and moisture in mixing
- b. Describe how heat affects batters and doughs, the basis of most bakeshop items.
- c. Identify and understand the basic baking and cooking methods employed in the bakeshop.
- d. Describe the baking process,
- e. Describe the science of taste and basic flavor principles.
- f. Identify the types of flours and discuss the importance of gluten.
- g. Identify different types of sweeteners.
- h. Identify different types of fats.
- i. Distinguish between milk and dairy products.
- j. Identify and understand the importance of eggs in baking.
- k. Identify and understand the importance of thickeners in baking.
- l. Identify a variety of fruits.
- m. Describe how to purchase and store fruits appropriate for your needs.
- n. Describe the function of bakeshop flavoring ingredients.
- o. Describe the importance of formulas and recipes in a bakeshop.
- p. Describe measurement systems and how to measure ingredients.
- q. Explain the importance of weighing ingredients.
- r. Convert formulas and use baker's percentage.
- s. Understand the importance of knife skills in a professional kitchen.
- t. Prepare items needed prior to actual cooking.

2. Learning Activities:

- a. Classroom lecture/discussion (**F1,F4**)
- b. Homework and other assignments designated by the instructor (**FA4**)

C. Unit Three: Chapters 6 and 7. Quick Breads: Artisan and Yeast Breads

1. Unit Objectives: Upon successful completion of this unit, the student will be

able to:

- a. Describe and use chemical leavening agents properly.
- b. Prepare a variety of quick breads using the biscuit method, muffin method and creaming method.
- c. Prepare a variety of griddlecakes.
- d. Prepare a variety of quick bread recipes.
- e. Select and use yeast properly.
- f. Perform the 10 steps involved in yeast bread production.
- g. Describe artisan bread-making techniques.
- h. Mix yeast doughs using the straight dough method and the sponge method.
- i. Mix yeast doughs using pre-fermentation and sourdough techniques.
- j. Prepare artisan breads.
- k. Prepare a variety of yeast breads, bagels, flatbreads and other bread varieties.

2. Learning Activities:

- a. Classroom lecture/discussion (**F1**)
- b. Hands on preparation of dough's (**C3, C14, C19, F1, F4**)
- c. Homework and other assignments designated by the instructor (**F4**)

D. Unit Four: Chapters 8 and 9. Enriched Yeast Doughs; Laminated Doughs

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Describe the mixing and handling requirements for making enriched yeast breads.
- b. Prepare brioche, challah, doughnuts and a variety of enriched yeast dough products.
- c. Prepare a variety of specialty breakfast pastries made from sweet dough.
- d. Describe the basic principles of deep-frying sweet dough.
- e. Describe the steps and techniques for preparing and baking laminated dough.
- f. Prepare puff pastry.
- g. Prepare croissants and Danish pastries.
- h. Prepare a variety of pastries using these doughs and other components.

2. Learning Activities:

- a. Classroom lecture/discussion (**F1**)
- b. Hands on preparation (**C3, C14, C19, F1, F4**)
- c. Homework and other assignments designated by the instructor (**FA4**)

E. Unit Five: Chapters 10, 11, and 12. Cookies and Brownies; Pies and Tarts; Pastry and Dessert Components

1. Unit Objectives: Upon successful completion of this unit, the student will be

able to:

- a. Prepare a variety of cookie doughs and batters.
- b. Describe the various make-up methods for cookies, biscotti and brownies.
- c. Assemble a variety of decorated cookies and brownies.
- d. Prepare a variety of pie crusts and fillings.
- e. Form and bake a variety of pies and tarts.
- f. Prepare a variety of dessert and pastry items and incorporating components.
- g. Prepare a variety of pastries using éclair paste.
- h. Prepare a variety of meringues.
- i. Prepare a variety of specialty pastries using phyllo dough.
- j. Prepare crepes.
- k. Prepare a variety of dessert and pastry items, incorporating components from other chapters.

2. Learning Activities:

- a. Classroom lecture/discussion (**F1**)
- b. Hands on preparation (**C3, C14, C19, F1, F4**)
- c. Homework and other assignments designated by the instructor (**FA4**)

F. Unit Six: Chapters 13, 14, 15, and 16. Cakes and Icings; Custards, Creams, and Sauces; Ice Cream and Frozen Desserts; Healthy and Special-Needs Baking

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Prepare a variety of cakes.
- b. Prepare a variety of icings.
- c. Assemble cakes using basic finishing and decorating techniques.
- d. Describe the functions of ingredients used to make cakes.
- e. Prepare a variety of cakes using creamed fat and whipped egg mixing methods.
- f. Explain basic cake finishing and decorating techniques.
- g. Explain the function of eggs in custards and creams.
- h. Prepare a variety of custards and creams.
- i. Prepare a variety of mousses and other fillings.
- j. Prepare a variety of hot dessert soufflés and cheesecakes.
- k. Prepare a variety of dessert sauces.
- l. Recognize and evaluate commercially prepared ice cream and frozen products.
- m. Describe the churning method for making ice creams and sorbets.
- n. Describe the still-freezing method for preparing frozen desserts.
- o. Prepare a variety of ice creams, sorbets and frozen desserts.
- p. Prepare a variety of frozen soufflés, mousses, tortes and bombes.
- q. Recognize dietary conditions that affect today's consumers.
- r. Be familiar with allergies and food intolerance and the foods that trigger them.
- s. Describe and explain how to adapt bakeshop formulas to meet dietary

needs.

2. Learning Activities:

- a. Classroom lecture/discussion (F1)
- b. Hands on preparation (C3, C14, C19, F1, F4)
- c. Homework and other assignments designated by the instructor (FA4)

G. Unit Seven: Chapters 17 and 18. Tortes and Specialty Cakes; Petits Fours and Confections

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Prepare a variety of tortes.
- b. Prepare a variety of specialty torte fillings.
- c. Assemble tortes using basic and advanced icing techniques.
- d. Describe how to assemble and decorate a variety of specialty cakes.
- e. Describe the uses of the petit fours.
- f. Prepare an assortment of traditional petit fours and confections.
- g. Create petit fours using components from other chapters in this book.

2.

3. Learning Activities:

- a. Classroom lecture/discussion (F1)
- b. Hands on preparation (C3, C14, C19, F1, F4)
- c. Homework and other assignments designated by the instructor (FA4)

H. Unit Eight: Chapters 19 and 20. Restaurant and Plated Desserts; Chocolate and Sugar Work

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Recognize key considerations that go into planning a dessert menu.
- b. Describe the basic principles of plate presentation.
- c. Describe and use contemporary flavor pairing concepts.
- d. Use a variety of techniques to add visual appeal to plated desserts.
- e. Identify a variety of chocolate products.
- f. Understand the various procedures for tempering chocolate.
- g. Prepare chocolate decorations and candies.
- h. Prepare marzipan and nougatine.
- i. Make and use pastillage; prepare and use caramel to create spun sugar and caramel decorations.

2. Learning Activities:

- a. Classroom lecture/discussion (F1)
- b. Hands on preparation (C3, C14, C19, F1, F4)

- c. Homework and other assignments designated by the instructor (FA4)

IX FEEDBACK:

1. *Instructor:* As your instructor I will organize and present the course material in a manner designed to facilitate the learning process. I will evaluate your progress periodically via writing assignments and exams and provide feedback on your performance via exam scores, exam critiques, and critique of your writing assignments, etc. I am also available before and after each class period and during office hours to discuss your performance and answer questions.

2. *Student:* **As the student you are ultimately responsible for your success in this course.** It is your responsibility to attend class regularly, prepare for class by reading assigned text material, participate in class discussions, ask questions when required to improve your understanding, prepare for and complete exams, and complete all other assignments.