**Baking Fundamentals**

**Chef Phil Cropper**

**COURSE OUTLINE:**

This course is a study of the fundamentals of baking including, dough, quick breads, pies, cakes, cookies, tarts and basic items made in a bakery.  Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the use of proper flours.

**COURSE OBJECTIVES:**

Upon successful completion of the course, the student will be able to:

**Knowledge Based:**

* Identify and explain baking terms, ingredients, equipment and tools.
* Employ safe food handling practices using contemporary guidelines

**Skill Based:**

* Scale and measure ingredients.
* Prepare yeast dough, quick breads, pies, cookies, cakes, icing, pate choux, and savory baking.
* Produce baked products using commercial ingredients and equipment.

**Course Learning Outcomes:**

* Describe properties and functions of the basic ingredients used in baked goods.
* Weigh and measure ingredients used in baking.
* Resize recipes to meet production needs and equipment capacities.
* Prepare typical American chemically leavened products.
* Scale, mix, mold, proof and bake yeast raised goods.
* Prepare cookies using various common dividing and panning techniques.
* Prepare American home style crumb topped and two crust pies.
* Prepare high ratio, chiffon cakes and genoise.
* Prepare product finishes such as washes, glazes, icings, frostings and fillings.
* Demonstrate proper storage techniques for all baked products.

**STUDENT AUDIENCE:**

This course has been developed to provide first year culinary students with knowledge and skills necessary to produce quality baked goods. This is a course designed to teach basic baking skills.

**INSTRUCTIONAL METHODS AND ASSIGNMENTS:**

For the lecture portion of the course, the instructor will utilize smartboard projections, handouts, videos and demos.  For the lab portions the student will follow written recipes and instructions given by instructor while producing assigned products and working with common commercial grade ingredients.  Before EACH class it is the students responsibility to read any material or assignments given out as preparation for the class; to review and study the recipes or techniques that will be utilize; write out working recipes on index cards adjusted to reflect the quantities that will be produced.  If student does not come prepare they will not be allowed to enter lab and not receive credit for the day. No cards will be written during lecture. Student will not be allowed to enter lab and will not receive credit for the day

**Class week 1 & 2, September 8-18**

* Introduction/Course outline
* Safety/Sanitation
* Scaling/Measuring
* Equipment/Tools
* **Homework-Read section 1 /unit 1,2 pages 4-34**
* **Homework-Read section 3 /unit 6,7 pages 94-135**

**Class week 3 (Lab #1)-Chocolate, September 21-25**

* Learn how chocolate is made
* Profile chocolate in tasting, smelling, appearance, etc.
* How to work with chocolate and learn basic garnishes
* **Homework-Read Section 9 Unit 17 p. 354-372**

**Class week 4 (Lab #2)-Basic Mixing Methods/Quick Breads, Cakes, September 28-2**

* Learn  Muffin, Creaming methods
* Concentration this week on Muffin/Creaming Methods
* **Homework-Read section 8 /unit 14,15 pages 286-333**

**Class week 5 (Lab #3)-Biscuit Method-Pie/Tart Dough, October 5-9**

* Learn how Biscuit Method works for different applications.
* Understanding of different types of pie/sweet tart dough and uses
* **Homework-Read section 20 / unit 20 pages 418-439, review recipes for week #6, work on costing sheets**

**Class week 6 (Lab #4)-Custards/Creams, October 12-15**

* Stirred vs. Baked Custard and the differences
* Learn the uses for these basic products in applications of other pastry and desserts
* **Homework-Read section 6 / unit 11 pages 208-235, review recipes for week #7, work on costing sheets**

**Class week 7 (Lab #5)-Pies/Tarts-Fillings/Assemble, October 19-23**

* Difference between dough in taste for savory vs. sweet
* Handling, rolling, shaping of dough
* Using the right dough for the right filling
* Finishes for pies
* **Homework-Read section 6 / unit 12 pages 236-256, review recipes for week #7**

**Class week 8 (Lab #6)-Cookies/Brownies, October 26-30**

* Types of cookies
* Mixing methods
* Storing different cookie dough
* **Homework-Read section 7 / unit 13 pages 258-280 Review for test-Don’t forget to turn in your paper next week!!)**

**Class week 9-Mid Term November 4th /Research Papers Due, November 2-5**

* This week will be a review week and to prepare for mid-term exams
* Test will be given on November 3rd, Practical Exam on November 4th
* Students must turn in midterm paper. No late papers. Must be turned in by end of the class on the 4th of November!
* **Homework-–Read section 2 review units 1,2,3,4 pages 38-93 do review question at the end of each unit.**

**Class week 10 (Lab #7)-Yeast Dough-Bread Production, November 9-13**

* Yeast-Fresh vs. Dried, how does it work
* Procedures for mixing yeast dough
* Storing breads/dough for future uses
* **Homework-Read section 4 / unit 8,9 pages 136-175, review recipes for week #11**

**Class week 11 (Lab #8)-Laminated Dough/Short Dough/Pastry Elements, November 16-20**

* Learning the differences between Puff/Croissant/Danish dough
* What is the best applications/uses for these item
* Pate a Choux, Puff Pastry, Fillo
* Learn the different applications for each
* Talk about Meringues-American, Swiss, Italian
* **Homework-Read section 5 / unit 10 pages 182-206 (Re-read this chapter to be ready for class), review recipes for week #12**

**Class week 12 (Lab #9) November 23-24**

* Prepare for Thanksgiving Pie/Biscuit Sale
* **NO Homework this week – Enjoy your break!**

**Class week 13 (Lab #10)-Savory Baking, December 1-4**

* Review different types of ingredients used for savory baking
* Look at trends for baking ideas in the industry.
* **Homework-Get costing sheets done!!**

**Class week 14 (Lab #11) –Principles of Cake Decorating , December 7-11**

* Look and discuss all the departments and new items never seen before
* **Homework-2page paper due next week,  April 27. On what you saw and learned.  Standard APA format.**NO LATE PAPERS WILL BE ACCEPTED.

**Class 14 (Lab #11)-Healthy Alternative Baking-April 27/Wed.-FIELD TRIP PAPERS DUE!!**

* Recognize dietary conditions that affect today’s consumers
* Understand how to adapt bakeshop formulas to meet dietary needs

**Class 15-Practical Exam-May 4/Wed.**

* **Study for next week written exam.**

**Class 16-Final Exam/Written-May11/Wed. (Costing Sheets Due!! Will not take after this class-Don’t forget worth 300 points!!)**

* **Students may come in regular clothing for cleaning of kitchen after test is done**

                                                          **Research Paper-Basic Baking**

***DUE March 9 (Week #8)-NO LATE PAPERS WILL BE ACCEPTED!***

***Choose one of the follow topics. Papers will follow APA format and paper will be a min. of 4 pages, typed .(Cover sheet & source page do not count for the 4 pages!!)   Make sure that you list resources used for project at end of paper. An APA format guideline is provided to you by chef.***

1. ***Select one of the following industries: Flour Milling, Sugar refining, or Dairy and explain how the agricultural products produced by these industries are brought to market. Also include which type is most commonly used in the industry and why.***
2. ***What is NSF International? What is its significance with regard to commercial kitchen equipment? Give details as to what the certification is any why operations adopt it.***
3. ***Copper, Aluminum, Anodized aluminum, Stainless Steel, and Ceramics are materials used to make cookware and bake ware for the bakeshop. Research and describe the advantages and disadvantages of each and which is most used in the industry.***
4. ***Choose a country in the world and research the pastry traditions of that country.  Remember, holidays are big times to look at the baked goods they have.***
5. ***Locate a professional organization for bread bakers, pastry or both. What services are available to its members and how can it be a help in this profession.***
6. ***Choose four seasonal fruits (since this class I would choose fall) at the local grocery store.  Identify the country or region of origin for each of the fruits. Find out where these fruits come from when out of season. Discuss what qualities, shelf life, storage and uses for these fruits.***

**Readings**

**Class 1-Basic Principles-Jan. 19/Wed.**

* Introduction/Course outline
* Safety/Sanitation
* Scaling/Measuring
* Equipment/Tools
* **Homework-Read Chapter 21, p.761-767**

**Class 2 (Lab #1)-Chocolate-Jan 26/Wed**

* Learn how chocolate is made
* Profile chocolate in tasting, smelling, appearance, etc.
* How to work with chocolate and learn basic garnishes
* **Homework-Read Chapter 10, p. 237-248, review recipes for week #3**

**Class 3 (Lab #2)-Basic Mixing Methods/Quick Breads, Cakes-Feb. 2/Wed.**

* Learn  Muffin, Creaming methods
* Concentration this week on Muffin/Creaming Methods
* **Homework-Read p. 211-215, review recipes for week #4, work on your costing sheets.**

**Class 4 (Lab #3)-Biscuit Method-Pie/Tart Dough-Feb. 9/Wed.**

* Learn how Biscuit Method works for different applications.
* Understanding of different types of pie/sweet tart dough and uses
* **Homework-Read p. 351-360, review recipes for week #5, work on costing sheets**

**Class 5 (Lab #4)-Custards/Creams-Feb. 16/Wed.**

* Stirred vs. Baked Custard and the differences
* Learn the uses for these basic products in applications of other pastry and desserts
* **Homework-Read p. 511-519, review recipes for week #6, work on costing sheets**

**Class 6 (Lab #5)-Pies/Tarts-Fillings/Assemble-Feb. 23/Wed.**

* Difference between dough in taste for savory vs. sweet
* Handling, rolling, shaping of dough
* Using the right dough for the right filling
* Finishes for pies
* **Homework-Read p. 301-307, review recipes for week #7**

**Class 7 (Lab #6)-Cookies/Brownies-March 2/Wed.**

* Types of cookies
* Mixing methods
* Storing different cookie dough
* **Homework-Review for test-Don’t forget to turn in your paper next week!!)**

**Class 8-Mid Term-March 9/Wed. /Research Papers Due!!**

* Test will be given then students can leave. No late papers. Must be turned in by end of day!!

**-March 14-18-SPRING BREAK NO CLASS!!**

**Homework-Read/Review recipes p. 237-313**

**Class 9 (Lab #7)-Yeast Dough-Bread Production-March 23/Wed.**

* Yeast-Fresh vs. Dried, how does it work
* Procedures for mixing yeast dough
* Storing breads/dough for future uses
* **Homework-Read p.217-221, review recipes for week #10**

**Class 10 (Lab #8)-Laminated Dough/Breakfast Items-March 30/Wed.**

* Learning the differences between Puff/Croissant/Danish dough
* What is the best applications/uses for these item
* **Homework-Read p.211-221(Re-read this chapter to be ready for class), review recipes for week #11**

**Class 11 (Lab #9)-Short Dough/Pastry Elements-April 6/Wed.**

* Pate a Choux, Puff Pastry, Fillo
* Learn the different applications for each
* Talk about Meringues-American, Swiss, Italian
* **Homework-Read p. 687-699, review recipes for week #12**

**Class 12 (Lab #10)-Savory Baking-April 13/Wed.**

* Review different types of ingredients used for savory baking
* Look at trends for baking ideas in the industry.
* **Homework-Get costing sheets done!!**

**Class 13-Field Trip-Whole Foods & Central Market-April 20/Wed.**

* We will tour Whole Foods at 6th & Lamar then go to Central Market on Lamar
* Look and discuss all the departments and new items never seen before
* **Homework-2page paper due next week,  April 27. On what you saw and learned.  Standard APA format.**NO LATE PAPERS WILL BE ACCEPTED.

**Class 14 (Lab #11)-Healthy Alternative Baking-April 27/Wed.-FIELD TRIP PAPERS DUE!!**

* Recognize dietary conditions that affect today’s consumers
* Understand how to adapt bakeshop formulas to meet dietary needs

**Class 15-Practical Exam-May 4/Wed.**

* **Study for next week written exam.**

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**Course Subjects**

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**Student Learning Outcomes/Learning Objectives**

**Course Learning Outcomes:**

* Describe properties and functions of the basic ingredients used in baked goods.
* Weigh and measure ingredients used in baking.
* Resize recipes to meet production needs and equipment capacities.
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* Scale, mix, mold, proof and bake yeast raised goods.
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