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Fall 9-2005

### CUL 165T.01: Baking and Pastry

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**THE UNIVERSITY OF MONTANA--MISSOULA  
COLLEGE OF TECHNOLOGY  
BUSINESS TECHNOLOGY DEPARTMENT**

**COURSE SYLLABUS**

**COURSE NUMBER AND TITLE: FSM 165T Baking and Pastry**

**DATE REVISED: FALL 2005**

**CREDITS: 3**

**PREREQUISITES: CUL 151T, MAT 114T or consent of instructor**

**FACULTY:**

**Chef Thomas Campbell, director  
Thomas.campbell@mso.umt.edu  
243-7831  
Office: Culinary Trailer  
Hours: 7a.m.–3 p.m. or by appointment**

**COURSE DESCRIPTION:**

**Introduction of various ingredients and how they affect the finished product by giving a tender crumb and a well-developed crust. Six basic functions of ingredients and the techniques of scaling, pan preparation, sifting, chocolate, and pastry bag work.**

**STUDENT PERFORMANCE OUTCOMES:**

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

- 1. Use appropriate language used in baking and pastry.**
- 2. Utilize the six basic categories of function.**
- 3. Select ingredients with care to produce high-quality baked goods.**
- 4. Use a baker's balance.**
- 5. Calculate formulas based on baker's percentages.**
- 6. Apply the factors that control the development of gluten in baked products.**
- 7. Explain the changes that take place in a dough or batter as it bakes.**
- 8. Prepare yeast breads, rolls, sweet dough products, and Danish.**
- 9. Prepare quick breads such as biscuits, scones, muffins, loaf breads, coffee cake.**
- 10. List factors responsible for crispness, softness, chewiness, and spread in cookies.**
- 11. Demonstrate the three basic cookie mixing methods.**
- 12. Prepare the seven basic cookie types.**

**STUDENT PERFORMANCE ASSESSMENT METHODS AND GRADING PROCEDURES:**

Students will be required to demonstrate daily production assignments requiring pre-planning of methodology and recipes. Students will be evaluated on teamwork, professionalism, mise en place, quality of finished product, sanitation and organizational skills. All assignments, projects and tests will be assigned point values. Total points earned will be divided by points possible, and a letter grade will be assigned based on the following:

Evaluation Criteria		Grade Scale
Tests	20 percent	90 – 100 A
Projects	20 percent	80 – 89 B
Daily Production	60 percent	70 – 79 C

**ATTENDANCE POLICY:**

Attendance will be taken. Students may miss two class sessions during the semester with no negative impact on grade. Each missed class thereafter will result in a 5-point deduction from final points accumulated. No make up is allowed for lab production. If students are absent for any reason, they will be accountable for any information disseminated and be held responsible for class notes, announcements of tests, and assignments.

**PARTICIPATION:**

Students must demonstrate teamwork as consistent with industry. This is necessary as students contribute to the learning environment and become active learners by attending class and participating. Students who read text assignments prior to class will be equipped to participate and will obtain the most from this course.

**DUE DATES:**

To receive full credit, assignments must be submitted by stated due dates. Late assignments will be lowered by 50 percent. No late assignments will be accepted after week 13.

**TESTS:**

Tests will be given during the semester as announced. Assignments for makeup tests will be made only if faculty is notified by voice mail, e-mail, or personally prior to the test. A score of zero will be averaged into grade determination for any missed test.

**ACADEMIC INTEGRITY:**

Students are required to adhere to standards of academic integrity. Students should review The University of Montana Conduct Code regarding their rights and responsibilities. The Conduct Code is located at <http://www.umt.edu/studentaffairs/>.

**CELL PHONE POLICY:**

Cell phones must be turned off prior to class.

**UNIFORM POLICY:**

Students will be required to be in full Culinary Uniform (See Addendum) to be accepted into class.

**REQUIRED TEXT:**

Gissen, Wayne, John Wiley & Sons, Inc., *Professional Cooking*, 5th edition, ISBN 0-471-43625-9

**SUGGESTED REFERENCE MATERIALS:**

Reinhold, Van Nostrand, *The New Professional Chef*, 6th Edition, ISBN 0-442-01961-0

**SUPPLIES:**

Standard culinary knife kit

**COURSE OUTLINE:**

Weekly plan, reading assignments, project due dates, and testing dates to be delivered and explained the first day of class. Final comprehensive exam date will be announced at this time.

- I. Basic Principles of Baking
  - A. Measurement
  - B. Baker's Percentages
  - C. Selection of ingredients
  - D. Gluten
  - E. Mixing methods
  - F. Selection of flours
  - G. Shortening
  - H. Liquid

**II. The Baking Process**

- A. Formation and expansion of gasses**
- B. Trapping the gases in air cells**
- C. Coagulation of protein**
- D. Gelatinization of starches**
- E. Browning of the surface and crust formation**

**III. Scaling**

- A. Protecting the product from air**
- B. Adding moisture retainers to the formula**
- C. Freezing**

**IV. Flours, Meals, and Starches and Fats**

- A. Bread flour**
- B. Cake flour**
- C. Pasty flour**
- D. All purpose flour**
- E. Whole wheat flour**
- F. Rye flour**
- G. Starches**
- H. Shortenings**
- I. Butter and margarine**
- J. Oils**

**V. Sugars**

- A. Regular refined sugars, or sucrose**
- B. Molasses and brown sugar**
- C. Corn syrup**
- D. Glucose syrup**
- E. Honey**
- F. Malt syrup**
- G. Hidden sources of sodium**

**VI .Sweeteners**

- A. Refined sugar**
- B. Nature's Sweeteners**
- C. Hidden sugar sources**
- D. Serving temperature**

**VII, Liquids**

- A. Water**
- B. Milk and cream**
- C. Eggs**
- D. Other sources of liquids**

**VIII. Leavening agents**

- A. Yeast
- B. Baking soda
- C. Baking powder
- D. Baking ammonia
- E. Air
- F. Steam

**IX. Yeast Product Types**

- A. Lean dough
- B. Rich dough
- C. Rolled – in yeast dough
- D. Straight dough method
- E. Modified straight dough method
- F. Sponge method

**X. Mixing Methods**

- A. Scaling ingredients
- B. Mixing
- C. Fermentation

**XI. Baking Methods**

- A. Punching
- B. Rounding
- C. Benching
- D. Makeup and panning
- E. Proofing
- F. Cooling and storing

**XII. Cookie Characteristics**

- A. Crispness
- B. Softness
- C. Chewiness

**XIII. Mixing Methods**

- A. Spread
- B. One – stage method
- C. Creaming method
- D. Sponge method

**XIV. Types of Cookies and Makeup Methods**

- A. Dropped cookies
- B. Bagged cookies
- C. Rolled cookies
- D. Molded cookies
- E. Icebox cookies
- F. Bar cookies
- G. Sheet cookies

**XV. Panning, Baking and Cooling**

- A. Preparing the pans
- B. Baking
- C. Cooling