



**Columbus State Community College  
Mathematics Department  
Student Syllabus**

**COURSE NUMBER:** MATH 1103

**COURSE TITLE:** Mathematics for Hospitality and Culinary Arts

**CREDITS:** 3

**CLASS HOURS PER WEEK:** 3

**PREREQUISITES:** DEV 0114 with a C or higher, S in MATH 1099 (DEV 0114 module), by placement into MATH 1050, or by placement equivalent (Placement Group B)

**INSTRUCTOR:**

**CONTACT:**

**DESCRIPTION OF COURSE**

This course is specifically for Culinary Apprenticeship, Baking and Pastry Arts, Restaurant and Foodservice Management, and Hotel Tourism and Event Planning majors. This course will develop the mathematical reasoning needed for advanced unit conversions, determining and applying edible product yield percent, costing of food, beverage, and recipes, recipe size conversion, bakers scaling (of liquid versus dry weights), edible product yield percentages, menu cost cards and introductory hotel budgeting. Students will apply learned concepts and mathematical knowledge to draw conclusions and make decisions relevant to problem solving in hospitality related fields.

**COURSE STUDENT LEARNING OUTCOMES**

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

- Perform fraction, decimal and percent calculations and conversions, and solve multi-step word problems using an algebraic approach.
- Perform conversions within and between customary units of measure and metric units of measure and perform conversions within and between weight and volume measures.
- Calculate yield percent, as purchased quantity, and edible portion quantity using an algebraic approach, and analyze when to apply yield percent and when to ignore yield percent.
- Calculate the cost to produce a recipe including unit cost and total cost, calculate beverage cost and selling price considering the beverage cost percent, and successfully complete and interpret a Food Cost Form.
- Calculate conversion factors and recipe conversions, convert recipes into easier-to-measure quantities, and calculate quantities using ratios.
- Create and analyze a simple hotel budget plan involving average daily room rate, occupancy rate, and revenue per available room, and perform an introductory financial analysis.

**PROGRAM OUTCOMES**

- a) Recognize, define, & analyze a problem.
- b) Examine issues by identifying and challenging assumptions and biases, including one's own, and by distinguishing substantiated fact from opinion or misinformation.
- c) Apply learned concepts and knowledge to make decisions relevant to problem solving.

- d) Develop problem-solving strategies and evaluate their practical and/or ethical implications.
- e) Draw logical, well-supported conclusions by testing them against relevant criteria and standards.
- f) Adjust conclusions and viewpoints if new information becomes available.
- g) Perform mathematical computations using appropriate methods to arrive at accurate results.
- h) Analyze, interpret, and/or formulate inferences from data such as graphs, charts, tables, or other quantified data.

**OUTCOMES BASED ASSESSMENT OF STUDENT LEARNING**

For this course, students are expected to demonstrate the skills associated with the Institutional Learning Goals (ILG) identified below:

ILG #1 Critical Thinking

ILG #3 Quantitative Skills

In class students are assessed on their achievement of these outcomes. Names will not be used when reporting results. Outcomes-based assessment is used to improve instructional planning and design and the quality of student learning throughout the college.

**COURSE MATERIALS REQUIRED**

- TI-30 XS **Multi View** Scientific Calculator
- Computer/internet access

**TEXTBOOK(S), MANUALS, REFERENCES, AND OTHER READINGS**

Textbook: Culinary Math 4<sup>th</sup> Edition, Linda Blocker and Julia Hill, John Wiley & Sons, Inc., 2016

**GENERAL INSTRUCTIONAL METHODS**

Collaborative learning, online and paper/pencil homework assignments, lecture, discussion, demonstration, exploration, and discovery exercises with the use of visual aids, the calculator, and Excel.

**STANDARDS AND METHODS FOR EVALUATION**

**Grading Policy: (Matches Blackboard Grade Center)**

Excel Labs (3 @ 30 pts each)	90 pts
Before-Class Assignments (19 @ 5 pts each)	95 pts
Homework (19 @ 5 pts each)	95 pts
Blend Group Work (5 @ 15 pts each)	75 pts
Project (1 @ 45 pts)	45 pts
Quizzes (5 @ 10 pts each)	50 pts
Tests (3 @ 100 pts each)	300 pts
Final Exam (1 @ 250 pts)	250 pts
<b>Total</b>	<b>1000 pts</b>

## **GRADING SCALE**

Letter grades for the course will be awarded using the following scale:

≥ 90% - A      80-89% - B      70-79% - C      60-69% - D      < 60% - E

**Course grades are NOT to be curved, skewed, or otherwise inflated.**

## **SPECIAL COURSE REQUIREMENTS**

Computer/Internet access is required.

## **ATTENDANCE/MAKE-UP POLICY**

**Before-Class Assignments:** Students will complete the Before-Class Assignments before coming to class and these assignments cannot be made-up if a student is absent.

**In-Class Group Work Assignments:** Group assignments will be completed in class and will be graded for accuracy. These assignments cannot be made-up if a student is absent. The instructor and other members of the group will be responsible for evaluating each member of the group on participation and contributions.

**Excel Labs:** Excel Labs will be completed in class and will be uploaded into Blackboard upon completion. Labs cannot be made-up if a student is absent.

**Homework:** Homework will be collected and graded each week per the course calendar. No late homework will be accepted.

**Tests and Quizzes:** One missed test and one missed quiz may be made up only if (1) a valid reason exists for missing and (2) the instructor is informed of the impending absence prior to the administration of the test or quiz. Valid reasons include demonstrable emergencies or participation in an authorized campus activity. The makeup test/quiz must be completed within 7 calendar days of the excused absence.

**Final Exam:** There will be a comprehensive Final Exam given during Final Exam Week.

## **LAST DAY TO WITHDRAW FROM COURSE**

If you should decide to drop this course, but do not officially do so through Records and Registration, a failing grade will be recorded on your transcript. No drops will be allowed after the official college drop date. Drop forms are available from the Counseling/Advising Center and from Records and Registration.

## **DIVERSITY AND EQUITY INCLUSION STATEMENT**

### **YOUR VOICE MATTERS!**

The CSCC Mathematics Department faculty value diversity of thought, perspective, and experience, and respect your identities (including but not limited to race, gender identity or expression, class, sexual orientation, religion, and ability). The education, rights, and well-being of all students are encouraged and cultivated. Our goal is to foster and support safe and inclusive learning environments with equitable opportunities for all students to participate, contribute, and succeed.

## **COLLEGE SYLLABUS STATEMENTS**

Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services can be found at [www.csc.edu/syllabus](http://www.csc.edu/syllabus) or on the College website Quick Links “Syllabus Statements”.

## **WEATHER RELATED DEPARTMENT SPECIFIC POLICY**

If not covered by College Policy, relative to clinical, practicum, or other missed time due to weather related college closings.

## **UNITS OF INSTRUCTION**

- Math Basics
  - Fraction, Mixed Number, and Decimal Calculations and Conversions
  - Converting Between Fraction, Decimal, and Percent
  - Rounding
  - Application Problems Involving Percent (Algebraic Approach)
- Customary Units of Measure
- Metric Units of Measure
- Conversion of Units (Volume or Weight)
- Converting Weight and Volume Mixed Measures
- Advanced Conversions Between Weight and Volume
  - Identify When Approximate Volume to Weight Chart is needed
  - Interpret and Use Approximate Volume to Weight Chart information in advanced conversions
- Yield Percent
  - Calculate Yield Percent (Algebraic Approach)
  - Formula Rearrangement
  - Determine As Purchased Quantity and Edible Portion Quantity
  - Apply Yield Percent
  - When to Ignore Yield Percent
- Cost
  - Cost Per Unit
  - Total Cost
  - As Purchased Cost
  - Edible Portion Cost
  - Recipe Costing
  - Understand and Use Food Cost Form
  - Beverage Costing, Selling Price, and Beverage Cost Percent
- Recipe Size Conversion
  - Determine Conversion Factors
  - Scaling with Conversion Factors
  - Convert to Easier-to-Measure Quantities
  - Bakers' Percent
- Kitchen Ratios
  - Using Ratios to Calculate Ingredient Quantities
  - Ratios vs. Recipes (formulas)

- Hotel Calculations and Applications
  - Monetary Conversions
  - Budget Plan
    - Average Daily Room Rate
    - Occupancy Rate
    - RevPar (Revenue Per Available Room)
  - Financial Analysis
    - Profit/Loss Statement
    - Annual Consolidated Statement of Income
    - Revenue, Sales Mix, Expenses, and Profit Margin