Effective Semester / Session: Spring 2006

Type of Action:
- New
- Modification [X]
- Cancellation

Course Alpha and Number: MG 220

Course Title: Applied Math in Business

Reason for initiating, revising, or canceling:
This course guide is being modified to reflect changes in department name, course content, instructional goals, assessment measures, choice of textbook, and change in the course name, alpha and number from OT 120 (Business Math), to better meet the needs of the students and allow for articulation to a four-year, business baccalaureate degree program.

Proposer: [Signature] 11/29/05

Department Chair: [Signature] 11/29/05

English and Format Reviewer: [Signature] 12/7/05

Academic Council Chair: Date

Dean of Academic Programs and Services: Date
Course Guide

Course: MG 220 – Applied Math in Business

1. Department
   Business

2. Purpose
   Applied Math in Business provides students with practical mathematical and statistical concepts and skills that are useful in business applications and decision making. These skills are useful in related business courses and for functioning in consumer markets. Students who develop an understanding of business mathematics concepts will have an advantage in such courses as introduction to business, accounting, marketing, management, and economics. This course is required for all business administration associate degree candidates.

3. Description

   A. Required/Recommended Textbook(s) and Related Materials
      Required:
      Readability: Grade 8.9

   B. Contact Hours
      1. Lecture: 3 hours per week / 45 per semester
      2. Lab: None
      3. Other: None

   C. Credits
      1. Number: 3
      2. Type: Regular Degree Credits

   D. Catalogue Course Description
      This course provides students with basic mathematical and statistical skills useful in business applications and decision making. It covers calculation principles in fractions, decimals, and percentages as well as the operational factors of a business such as purchasing, pricing, payroll, and insurance. The student is introduced to the mathematical and statistical concepts of accounting and finance, such as inventory, depreciation, annuities, perpetuities, present value, and the evaluation of financial statements. The student also learns about calculation of mortgages. English Placement Level: EN 083 / 084. Math Placement Level: MA 132
E. Degree or Certificate Requirements Met by Course:
   This is a required course for the A.A.S. degrees in Business Administration with majors in Management, Accounting, Computer Applications, Office Technology, and Sales and Marketing. It is also required for the A.A. in Business.

F. Course Activities and Design:
   The course will be taught through lectures, doing example problems and exercises, homework assignments, and tests.

4. Course Prerequisites: Concurrent Course Enrollment;
   Required English/Mathematics Placement Level(s)
   Prerequisites: MA 091
   Math Placement Level: MA 132
   English Placement Level: EN 083 and 084

5. Estimated Cost of Course; Instructional Resources Needed
   Cost to the Student: Tuition for a three-credit course; cost of textbook.
   Cost to the College: Instructor’s salary.

   Instructional resources needed for this course include chalkboard/whiteboard, chalk/markers, photocopied handouts, overhead projector and transparency film, and other materials as necessary.

6. Method of Evaluation
   Students’ grades will be based on the regular letter grade system as described below:
   A: Excellent – grade points: 4.0;
   B: Above average – grade points: 3.0;
   C: Average – grade points: 2.0;
   D: Below average – grade points: 1.0;
   F: Failure – grade points: 0.0.

   NMC’s grading and attendance policies will be followed.
7. Course Outline

This is a topical outline and does not necessarily indicate the sequence in which the material will be presented.

1.0 Basic Mathematics for Business

1.1 Fundamental Operations with Whole Numbers
1.2 Fundamental Operations with Decimals
1.3 Common Fractions and Common/Decimal Fraction Conversion
1.4 Solving for Unknowns in Formulas and Equations
1.5 Percentage Applications

2.0 Business Fundamentals

2.1 Payroll Applications
2.2 Marketing Applications
   2.2.1 Buying
   2.2.2 Selling

3.0 Banking and Finance

3.1 Demand Deposits and Bank Reconciliation
3.2 Banking Applications
   3.2.1 Simple Interest
   3.2.2 Promissory Notes and Discounting
3.3 Installment Buying, Charge Accounts, and Credit Card Applications
3.4 Financial Applications
   3.4.1 Future Value and Present Value at Compound Interest
   3.4.2 Annuities and Sinking Funds
3.5 Real Estate Applications: Mortgages

4.0 Record Keeping and Analysis

4.1 Accounting Applications
   4.1.1 Reading, Analyzing, and Interpreting Accounting Financial Statements
   4.1.2 Depreciation
   4.1.3 Inventory and Overhead
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4.2 Insurance Applications: Life, Fire, and Auto
4.3 Securities Market Applications: Stocks and Bonds

5.0 Business Tools

5.1 Statistical Applications
5.2 International Business Math
8. **Instructional Goals**

This course will introduce students to:

1.0 Fractions, percents, and decimals, and their applications in the business world;

2.0 Various methods for calculating employees' gross income;

3.0 Net cost with single trade and a series trade discount;

4.0 Markup and markdown methods based on the cost or selling price;

5.0 The use of checks and their important features and characteristics;

6.0 The importance of reconciling bank statement with the check register;

7.0 Determining the maturity value of a loan or investment;

8.0 The use of promissory notes in business;

9.0 Annual percentage rates and how they are used to determine the finance charge of a loan;

10.0 The concept of future value and present value of money;

11.0 The importance of understanding and interpreting financial statements;

12.0 Determining depreciation using various methods;

13.0 Preparing the inventory value using various methods;

14.0 Stock and bond quotations and how to determine the cost of the stock and bond purchase; and

15.0 Various currency exchange rates and why they change from one country to another country.
9. **Student Learning Outcomes**

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

1.0 Read and convert fractions, percents, and decimals;

2.0 Calculate employees’ gross income using various methods;

3.0 Calculate the net cost with single trade and a series trade discount;

4.0 Calculate markup and markdown methods based on the cost or selling price;

5.0 Write a check and identify the important features and characteristics of a check;

6.0 Reconcile a bank statement with the check register;

7.0 Calculate the maturity value of a loan or investment;

8.0 Read and understand the parts of a promissory note;

9.0 Calculate the annual percentage rate and finance charge of a loan;

10.0 Calculate the future value and present value using formulas and tables;

11.0 Read, analyze, and interpret accounting financial statements;

12.0 Calculate depreciation using various methods;

13.0 Find the inventory value using various methods;

14.0 Read stock and bond quotations and determine the cost of the stock and bond purchase; and

15.0 Convert currencies from one country to another country.
10. **Assessment Measures**

Assessment of student learning may include, but not be limited to, the following:

1.0 Periodic quizzes and exams, group participation in problem solving exercises, and practical application project assignments.