**F17 Changes to Math 1029**

Math 1029 continues to cover four chapters of Blitzer’s *Thinking Mathematically.* A significant change from the 5th to 6th edition of the textbook and accompanying MyMathLab material, reflected in this DE course, is the inclusion of many more reading, vocabulary, and concept questions. This allows for more in-depth coverage of concepts, more exercises per section, and therefore the separation of some sections previously combined. Chapters 8, 11, 12, and 14 are included in this course. The number of tests has been increased from three to four; each chapter has its own test. The final exam continues to be comprehensive.

Chapter 8 of the textbook has been significantly expanded and renamed “Personal Finance (previously Consumer Math and Financial Management).” A section on income tax has been added, the section on annuities, savings, and investments has been revised and expanded and sections have been added on car and home purchases and credit card use. These have all been incorporated into the DE course since they greatly enhance the students’ practical application of the course.

Chapter 11, Counting Methods and Probability Theory, is much the same with the noted addition of significant conceptual material. A short section on Expected Value has been added. The previous version of the course postponed the section on computing probabilities with permutations and combinations (11.5) until after parts of subsequent sections on ‘and’, ‘or’, and ‘not.’ The addition of conceptual material makes this unnecessary and the new course follows the order of book presentation.

Chapter 12, Statistics, now has more focus on data that is presented through graphs and charts, rather than lists, and several objectives are now broken apart for concept presentation, but the overall content is fairly similar to the previous version.

The final unit of the course is chapter 14, Graph Theory (formerly chapter 15). Other than the consistent increase in conceptual exercises, and consequently longer assignments, the content is relatively unchanged.

Summary of Contents:

25 homeworks – total of 861 exercises

17 quizzes

4 tests

Comprehensive Final Exam

Objectives changed (all additions unless noted):

Chapter 8

8.1 Investigate ways percent can be abused

8.2 Income Tax - New Section

Determine gross income, adjusted gross income, and taxable income

Calculate federal income tax

Calculate FICA tax

Solve problems involving working students and tax

Understand concepts involving income taxes

8.3 Understand concepts involving simple interest

Solve application problems involving simple interest

Remove: ~~Use the simple interest formula on discounted loans~~

8.4 Understand concepts involving compound interest

8.5 Understand accounts designed for retirement savings

Understand concepts involving annuities, methods of savings, and investments

8.6 Cars – new section

Compute the monthly payment and interest costs for a car loan

Solve problems related to owning and operating a car

Understand concepts involving car ownership and payment

8.7 The Cost of Home Ownership – new section

Compute the monthly payment and interest costs for a mortgage

Prepare a partial loan amortization schedule

Solve problems involving what you can afford to spend for a mortgage

Understand concepts involving home ownership

8.8 Credit Cards – new section

Find the interest, balance due, and minimum monthly payment for credit card loans

Understand the difference between credit cards and debit cards

Know what is contained in a credit report

Understand the pros and cons of using credit cards

Understand credit scores as a measure of creditworthiness

Chapter 11

11.1 Understand concepts involving the fundamental counting principle

11.2 Understand concepts involving permutations

11.3 Use combinations, permutations, or the fundamental counting principle to solve problems

Understand concepts involving combinations

11.4 Understand concepts involving fundamentals of probability

11.5 Understand concepts involving probability

11.6 Solve conceptual problems involving probability

11.7 Understand concepts involving conditional probability

11.8 Expected Value – New section

Compute the expected value

Use expected value to solve applied problems

Use expected value to determine the average payoff or loss in a game of chance

Chapter 12

12.1 Understand and interpret data

Identify deceptions in visual displays of data (prior objective, reworded)

Understand concepts involving sampling, frequency distribution, and graphs

12.2 Interpret graphs, tables, and stem-and-leaf plots to be able to find the mean, median, mode and midrange

Understand concepts involving measures of central tendency

12.3 Find the mean, deviation, and sum of deviations

Understand concepts involving mean, range, and standard deviation

12.4 Understand concepts involving the normal distribution

12.5 no change

Chapter 14 (formerly chapter 15)

14.1 Understand concepts involving graph theory

14.2 Solve problems using Euler’s theorem and Fleury’s algorithm (reworded)

Understand concepts involving Euler paths and Euler circuits

14.3 Understand concepts involving Hamilton paths and Hamilton circuits

14.4 Solve applications using properties of a tree