EC 1050 Elementary Mathematical Economic and Business Models and Methods

I. College/School: Raj Soin College of Business
   Department: Economics

II. Course Information
   Course Title: Elementary Mathematical Economic and Business Models and Methods
   Course Abbreviation and Number: EC 1050
   Course Credit Hours: 4 hours
   Course Cross Listing(s) Abbreviation and Number: n/a
   Check (“x”) all applicable:
      General Education Course _X_ Writing Intensive Course_____ Service Learning Course_____
      Laboratory Course_____ Ohio TAG (Transfer Assurance Guide) Course _____
      Ohio Transfer Module Course____ Others (specify)_____

III. Course Registration
   Prerequisites: MTH 1280 or Math Placement 5.
   Corequisites: n/a
   Restrictions: none

IV. Student Learning Outcomes
   The course is designed to meet the following learning outcomes:
   1. Identify the various elements of a mathematical model.
   2. Determine the values of specific components of a mathematical model and relationships among various components.
   3. Apply a mathematical model to a real-world problem.
   4. Interpret and draw conclusions from graphical, tabular, and other numerical representations of data.
   5. Summarize and justify analyses of mathematical models for problems, expressing solutions using an appropriate combination of words, symbols, tables or graphs.

V. Suggested Course Materials
   Elementary Mathematics of Price Theory, Clark Lee Allen
   Elementary Mathematical Macroeconomics, David A. Bowers and Russell N. Baird
   Internet Supplementary Instructor Materials

VI. Suggested Method of Instruction
   Lecture

VII. Suggested Evaluation and Policy
   Examinations, quizzes, homework and class participation.

VIII. Suggested Grading Policy
   Final course letter grade earned in relation to evaluation and policy: 10 point scale with A=100%-90%, etc.

IX. Suggested Assignments and Course Outline
   Week 1 Applications of Constants, Variables, Coefficients and General vs Specific Functions in Economics and Business
   Weeks 2 Economic and Business Applications of Linear and Nonlinear Functions and Graphical Representations
   Weeks 3 Economic and Business Applications of Functions of Several Variables
   Weeks 4 Economic and Business Applications of Simultaneous Equation Models
   Weeks 5-6 Derivatives and Applications in Economics and Business
   Week 7 Economic and Business Applications of Unconstrained Optimization
   Week 8 Economic and Business Applications of Constrained Optimization
   Week 9 Additional Rules of Differentiation and Necessary and Sufficient Conditions in Applications to Economics and Business
   Week 10 Partial Differentiation and Applications to Economics and Business
   Week 11 Integration and Applications to Economics and Business
   Week 12 Introduction to Matrices and Basic Applications to Economics and Business
Applications include but are not limited to: individual and market demand and supply, equilibrium, incorporating effects of current economic policies such as minimum wage laws, product bans, import tariffs, quotas, lump-sum and excise taxes, price regulation, price discrimination, interest rate changes, money supply controls, welfare programs and reforms, monopoly power, money creation, cost of living measures, unemployment and inflation tradeoffs, fixed and fluctuating exchange rates, economic stimulus policies, and income inequality.

X. Other Information

This is a sample course syllabus guideline. Course materials, method of instruction, evaluation and policy, grading policy, assignments, and other course matters can differ by specific course sections and individual professors. Additional information can be obtained by contacting the Department of Economics.