

UC 10508 09F

APPROVED DEC 0 9 2009

CBM003 ADD/CHANGE FORM

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Undergraduate Council
 New Course Course Change
 Core Category: Math/Reason Effective Fall 2010

or

Graduate/Professional Studies Council
 New Course Course Change
 Effective Fall __

RECEIVED OCT 1 6 2009

- Department: Mathematics College: NSM
- Faculty Contact Person: Charles Peters Telephone: 743-3516 Email: charles@math.uh.edu
- Course Information on New/Revised course:
 - Instructional Area / Course Number / Long Course Title:
MATH / 1313 / Finite Mathematics with Applications
 - Instructional Area / Course Number / Short Course Title (30 characters max.)
MATH / 1313 / FIN MATH WITH APPLS
 - SCH: 3.00 Level: FR CIP Code: 27.0301.0001 Lect Hrs: 3 Lab Hrs: 0
- Justification for adding/changing course: To more accurately reflect course content/level
- Was the proposed/revised course previously offered as a special topics course? Yes No
 If Yes, please complete:
 - Instructional Area / Course Number / Long Course Title:
____ / ____ / ____
 - Course ID: ____ Effective Date (currently active row): ____
- Authorized Degree Program(s): ____
 - Does this course affect major/minor requirements in the College/Department? Yes No
 - Does this course affect major/minor requirements in other Colleges/Departments? Yes No
 - Can the course be repeated for credit? Yes No (if yes, include in course description)
- Grade Option: Letter (A, B, C ...) Instruction Type: lecture ONLY (Note: Lect/Lab info. must match item 3, above.)
- If this form involves a change to an existing course, please obtain the following information from the course inventory: Instructional Area / Course Number / Long Course Title
MATH / 1313 / Finite Mathematics with Applications
 - Course ID: 31090 Effective Date (currently active row): 1999
- Proposed Catalog Description: (If there are no prerequisites, type in "none".)
 Cr: 3. (3-0). Prerequisite: credit for or placement out of MATH 1310. Description (30 words max.):
 Students with prior credit for MATH 2331 will not receive credit for MATH 1313. May not apply to a major or minor in mathematics. Systems of linear equations, introduction to linear programming, mathematics of finance, topics in probability and statistics.

10. Dean's Signature: _____ Date: 13 Oct '09
 Print/Type Name: John Bear

U N I V E R S I T Y of H O U S T O N

CORE CURRICULUM COURSE REQUEST

Originating Department/College: Mathematics/NS&M

Person making request: Charles Peters Telephone: (713)743-3516

E-mail: _charles@math.uh.edu

Dean's signature: _____ Date: Dec. 9, 2009

I. General Information:

Course number and title: MATH 1313: Finite Mathematics with Applications

Catalog description must be included on completed CBM 003 form and attached to this document.

Category of Core for which course is being proposed (mark only one):

- Communication
- Mathematics
- Mathematics/Reasoning (IDO)
- American History
- Government
- Humanities
- Visual/Performing Arts Critical
- Visual/Performing Arts Experiential
- Natural Sciences
- Social/Behavioral Sciences
- Writing in the Disciplines (IDO)

II. Objectives and Evaluation (respond on one or more separate sheets):

Call ext. 3-0919 for a copy of "Guidelines for Requesting and Evaluating Core Courses" or visit the website at www.uh.edu/academics/corecurriculum

- A. How does the proposed course meet the appropriate Exemplary Educational Objectives (see **Guidelines**). Attach a syllabus and supporting materials for the objectives the syllabus does not make clear.
- B. Specify the processes and procedures for evaluating course effectiveness in regard to its goals.
- C. Delineate how these evaluation results will be used to improve the course.

SVP. Effective 5/2/08. Replaces all previous forms, which may no longer be used.

University of Houston
Mathematics Department
Math 1313: Finite Mathematics

Prerequisite: Credit for or placement out of Math 1310. Students with prior credit for MATH 2331 will not receive credit for Math 1313. May not apply to a major or minor in Mathematics.

Course Description: Systems of linear equations, introduction to linear programming, mathematics of finance, topics in probability and statistics.

Textbook: College Mathematics for the Managerial, Life, and Social Sciences, 5th edition, S.T. Tan; Brooks/Cole Pub. Available online at <http://casa.uh.edu>

Course Policies (pdf)

Course Syllabus

Chapter 1: Straight Line and Linear Functions

- 1.2 Straight Lines
- 1.3 Linear Functions and Mathematical Models
- 1.4 Intersection of Straight Lines
- 1.5 The Method of Least Squares

Chapter 2: System of Linear Equations and Matrices

- 2.2 Solving Systems of Linear Equations I
- 2.3 Solving Systems of Linear Equations II
- 2.4 Matrices
- 2.5 Multiplication of Matrices
- 2.6 The Inverse of a Square Matrix

Chapter 3: Linear Programming: A Geometric Approach

- 3.1 Graphing Systems of Linear Inequalities in Two Variables
- 3.2 Linear Programming Problems
- 3.3 Graphical Solution of Linear Programming Problems

Chapter 5: Mathematics of Finance

- 5.1 Compound Interest
- 5.2 Annuities
- 5.3 Amortizations and Sinking Funds

Chapter 6: Sets and Counting

- 6.1 Sets and Set Operations
- 6.2 The Number of Elements in a Finite Set
- 6.3 The Multiplication Principle
- 6.4 Permutations and Combinations

Chapter 7: Probability

- 7.1 Experiments, Sample Spaces, and Events
- 7.2 Definition of Probability
- 7.3 Rules of Probability
- 7.4 Use of Counting Techniques in Probability
- 7.5 Conditional Probability and Independent Events
- 7.6 Bayes' Theorem

Chapter 8: Probability Distributions and Statistics

8.1 Distributions of Random Variables

8.2 Expected Value

8.3 Variance and Standard Deviation

8.4 The Binomial Distribution

8.5 The Normal Distribution

8.6 Applications of the Normal Distribution