

Course Title: **Dual Credit Finite Mathematics**

Vincennes University – Project Excel

VU Course Number: **MATH 111**

Credit Hours: **3**

Distribution of Contact Hours: **3 lecture**

Course Syllabus

Fall Semester, 2015

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II. Course Catalog Description

Course Description

Prerequisite: **MATH 101 with a C or better grade, or a CPT EA score of 74 or greater.** Course topics include basic set theory, counting techniques, probability (including Markov chains, random variables, binomial distribution, and expected value), linear systems, matrices, linear programming and finance. This course also covers applications to problems from business and social sciences. *This course is a transferIN course.*

General Education skills supported by this course include the following:

Reading, Critical Thinking/Problem Solving, Mathematics

General Education graduation requirements met by this course:

Mathematics Broad Core met for the A.A., A.S., and A.A.S. Degrees

III. Common Course Outcomes

1. Identify practical application problems that can appropriately be modeled by a system of linear equations, define the appropriate model, solve the model using matrix methods, and interpret the solution as it applies to the practical problem.
2. Organize and manipulate data in applications using matrices, matrix operations, and matrix equations.
3. Identify practical application problems that can appropriately be modeled by linear programming methods, define the appropriate model, solve 2-dimensional models using linear programming methods, and interpret the results as they apply to the practical problem.
4. Demonstrate both an understanding of set theory concepts and counting principles/techniques by using them to model and solve problems involving these concepts and an understanding of basic probability concepts and rules (including, but not limited to, basic counting techniques, set theory rules and concepts, Bayes' Theorem, conditional probabilities, independence, random variables, expected value, the Binomial distribution, Markov Chains, and game theory) by correctly applying them to model and solve theoretical and empirical probability problems.
5. Solve financial application problems using financial formulas.

IV. Course Assessment Strategies

The degree of achievement of each of the outcomes above will be assessed with written exams. Both the class average and class median (as percent attained) on these exams will serve as an indicator of how well the outcomes have been achieved.

The class average and class median (as percent attained) on the comprehensive final exam will serve as an indicator of how well the course strategies have worked to develop the ability to recognize the mathematical patterns, and appropriate models for evaluation, solution, and interpretation within the common applications experienced in the business and social sciences. Class average and class medians of 70% or greater on the final exam will serve to confirm a level of achievement of the course outcomes.

V. Course Text and Materials

Finite Mathematics, 10th Edition, Margaret Lial, Raymond N. Greenwell, Nathan P. Ritchey copyright 2012, Pearson Publishing, ISBN: 0-321-74899-9

A graphing calculator is needed for this course. The graphing calculator used during class lectures will be one of the TI 83/84 series. A TI brand graphing calculator is highly recommended. The use of TI 89, TI 92, and other algebraic systems calculators is restricted.

VI. Instructional Methodologies/Activities

Various methods may be needed to learn the mathematics presented during class. These methods may include direct instructions, demonstrations, drill and practice, problem solving, tutoring, and programmed instruction. Mathematics is a participation sport; you must actively use the text by reading it and working the illustrative examples on a daily basis. Not all topics will be clearly understood the first time that you see them. It may be necessary for you to work more problems on some topics than others. Your teacher will help you learn as much as possible, but the ultimate responsibility is yours!

VII. Course Grading and Evaluation Practices - **You must receive $\geq 70\%$ to receive credit from VU.**

VU Grading Scale

A 93 – 100%
A- 90 – 92%
B+ 87 – 89%
B 83 – 86%
B- 80 – 82%
C+ 77 – 79%
C 70 – 76%
D 55 – 69%
F 0 – 54%

PHS Grading Scale

A+ 97 – 100%
A 93 – 97%
A- 90 – 93%
B+ 87 – 90%
B 83 – 87%
B- 80 – 83%
C+ 77 – 80%
C 73 – 77%
C- 70 – 73%
D+ 67 – 70%
D 63 – 67%
D- 60 – 63%

Course requirements

80% of semester grade:	4 Exams (weight 50%)
	10 Quizzes (weight 30%)
	23 HW Assignments - drop 3 lowest (weight 20%)
20% of semester grade	Final Exam

VIII. Course Policies

Attendance

The Vincennes University policy is premised upon the notion that students will attend all sessions of the classes in which they are enrolled. This policy supports Vincennes University's philosophy that students benefit most from the people and facilities provided by the citizens of Indiana through proper and adequate class attendance. Consequently, missing class for any reason will be regarded as an absence. When absences result from an approved and required University activity, they will not be counted against a student, and the work missed may be made up. Vincennes University believes that students who participate in University-sponsored activities and faculty-developed field trips must develop habits of attendance consistent with such participation, or voluntarily refrain from such participation. *For whatever reason an absence occurs, the student is responsible for the work missed.*

Make-up/Late Work

Late work will not be accepted for any reason other than absence. In the event that you are absent, you will have one day per absence to submit missed assignments, quizzes, tests, etc.

Academic Dishonesty

Cheating, plagiarism, or other forms of academic dishonesty will result in a zero for the current assignment, test, or quiz. Your parents will be notified and you will be referred to student services.

Content/Schedule Change

The content is subject to change at the instructor's discretion. As changes are made the instructor will promptly notify the student.