



**Department of Mathematics
Fall Semester/Academic Year (2017-2018)**

Course Prefix and Number: Math 144

Course Title: Finite Mathematics

PCS Code #: 1.1 Transfer

IAI Code#: M1 906

Course: Tu Th 2:10 PM - 3:55 PM MATH 144 JL Finite Mathematics (32341) Room: S203

Instructor: Julius Nadas

Phone: ~~773-481-8340~~ (Please do not call)

EMAIL: inadas@ccc.edu I prefer to be contacted via email.

OFFICE HOURS: MW 9:30AM - 10:50AM; TTh 11:25AM - 2:00PM
(Room: L304, L320 or S103)

Course Description:

Logic, sets, partitions, counting, probability rules and Bayes Theorem, vectors and matrices, and linear programming. Includes applications to behavioral sciences and to business and administration problems. Writing assignments, as appropriate to the discipline, are part of the course.

Credit Hours: 4

Contact Hours: 4

Lecture Hours: 4

Length of Course:

16 weeks / semester

Method of Delivery: Face to Face.

Prerequisites:

Grade of C or better in Math 140, or COMPASS ALGEBRA (43-99), College ALGEBRA (51-99), and TRIGONOMETRY (1-50); or ACT Math (min. 24); or SAT Math (min. 560); or COLLEGE ALGEBRA Placement Test Waiver, or consent of Department Chairperson

Course Objectives:

This course will teach students how to:

1. Develop the ability to model real world situations using graphical representations, mathematical expressions, and equations.
2. Identify and use correctly various problem-solving strategies to solve mathematical problems.
3. Solve correctly mathematical problems related to real world situations, including business and financial applications.
4. Interpret appropriately and accurately, solutions to mathematical problems verbally and in writing.

Instructor's Thoughts

I started programming computers in 1958 and ever since then I have been a strong proponent of radically changing the Math curriculum to incorporate Technology. Unlike other math teachers I want you to off-load all simple computational tasks to a computer. Your job is to be a manager, directing the work done by a computer. You analyze a problem, explain to the computer what it needs to do and then devise some way of verifying the correctness of the computer's solution.

This is not going to be anything like other math classes you have taken. Typically the teacher shows you step by step how to solve a problem, gives you a bunch of sample problems with which to practice and then has you demonstrate your mastery by doing manual calculations. I see this as a waste of your time and brainpower. Once you get out of school you will never have to solve problems that way. Solving them that way does not prepare you for what you will be expected to do after you leave.

Fasten your safety belts - you are in for an exciting ride.

Student Learning Outcomes:

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

1. Solve or graph linear equations in two and three variables.
2. Solve systems of linear equations in two and three variables.
3. Perform operations of matrix algebra or matrix inversion.
4. Solve systems of equations using matrices.
5. Obtain feasible regions for linear Mathematics of equations and matrices.
6. Set up linear programming problems.
7. Solve linear programming problems graphically.
8. Solve linear programming problems using the simplex method.
9. Solve problems involving simple or compound interest.
10. Solve problems involving annuities or amortization of loans.
11. Solve problems involving sets and set operations.
12. Use the principles of counting.
13. Solve problems involving permutations or combinations.
14. Using the basic rules of probability (addition, multiplication, complement, conditional, etc.).
15. Demonstrate knowledge of the terms of probability.
16. Compute problems involving the binomial distribution.
17. Compute problems using a frequency or probability distribution.
18. Compute the mean (expected value) of probability distribution.
19. Compute problems involving the normal distribution.
20. Solve problems involving logic or truth tables.

Definition / Statement of Active Pursuit of the Course:

Students who miss any of the tests are considered to be in violation of the active pursuit policy. District and College attendance policies are listed in the college catalog and the Student Policy Manual:

<http://www.ccc.edu/menu/Pages/Policies.aspx>

“No Show” Policy: (If a student registered for the course before the start time of the first class period, but 1) did not attend the first 2 classes, or 2) attended only 1 of the first 3 classes and failed to notify the instructor of his or her intentions to continue the class, the Registrar’s Office will remove the student from the course.)

Academic integrity: The City Colleges of Chicago is committed to the ideals of truth and honesty. In view of this, students are expected to adhere to high standards of honesty in their academic endeavor. Plagiarism and cheating of any kind are serious violations of these standards and will result, minimally, in the grade of “F” by the instructor.

Student Conduct: City Colleges of Chicago students are expected to conduct themselves in a manner which is considerate of the rights of others and which will not impair the educational mission of the College. Misconduct for which students are subject to College Discipline (e.g. expulsion) may include the following: (1) all forms of dishonesty such as stealing, forgery, (2) obstruction or disruption of teaching, research, administration, disciplinary proceeding, (3) physical or verbal abuse, threats, intimidation, harassment, and/or other conduct that threatens or endangers the health or safety of any person, and (4) carrying or possession of weapons, ammunition or other explosives.

Disability Access Center: Please note: Any student with a disability, including a temporary disability, who is eligible for reasonable accommodations should contact the Disability Access Center located in room L135, Learning Resource Center of the Wright North Campus or call (773) 481-8016 as soon as possible.

Classroom Etiquette: Vocal side-conversations are prohibited. Please text each other.

Topical Outline / Course Calendar:

Class Meeting	Lecture Content (details)
Week 1	Logic statements, Truth Tables, Sets, Venn Diagrams, Introduction to Probability,
Week 2	Basic concepts of Probability, Conditional Probability, Bayes Theorem
Week 3	Multiplication Principle, Combinations & Permutations, Binomial Probability
Week 4	Test 1
Week 5	Statistics: Central Tendency, Variation
Week 6	Frequency Distributions and the Normal Distribution
Week 7	Simple & Compound interest, Annuities, Amortization
Week 8	Test 2
Week 9	Solving Systems of Linear Equations using Gaussian Elimination
Week 10	Arithmetic Operations on Matrices; Matrix inverses
Week 11	Linear Inequalities in two variables; Linear Programming: Graphical method
Week 12	Test 3
Week 13	Slack Variables and the Simplex Method
Week 14	Duality
Week 15	Test 4
Week 16	Final Exam - Exit Test

Evaluating Student Performance:

Final grades are determined primarily by averaging scores from: 4 Unit Tests and a Final Examination. The student will be apprised of his standing at mid-term and at the end of the semester by a letter grade.

Recommended Texts, Materials and Resources:

Text: FINITE MATHEMATICS for the managerial life and social sciences
Enhanced review media edition 10th edition, ISBN: 13:978-0-321-74899-7

Materials: You are strongly encouraged to use any smart phone, pad, laptop or notebook computer.

Methods of Instruction:

Lecture-discussion method using board and/or overhead, small-group work, and question and answer.

Students Course is Expected to Serve:

Grading Procedure:

Four tests will each count for 20% Final Exam: 20%	Grade Distribution 90% to 100% = A 80% to 89% = B 70% to 79% = C 60% to 69% = D Below 60% = F
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Exit Assessment:

The final exam of each course is also the exit test. A student scoring 40% on the final exam will be graded by his/her instructor according to the grading policy of that instructor. The highest grade a student can receive if he/she scores less than 40% is D. Those students, who fail the exit test, have the right to appeal by completing the appeals form (copies are available in the department office) and submitting it to the department. The department will form a committee of three members to examine the student's appeal. The chairperson of the committee is the department chairperson, one of the committee members is the student's teacher and the second is a full time math professor appointed by the department chairperson. The committee, after hearing the case, may decide to set aside the grade and ask the student to retake the final exam, in which case the student's teacher will recalculate his/her final grade, or the committee may decide to let the grade stay. In this case the student has the right to appeal to the Dean of Instruction if he/she so desires.

Support Services:

Wright College is committed to your success! Below you will find a list of offices you may wish to contact during the semester for assistance:

Academic Support Center (Tutoring)	Room A-245
Business Services	Room A-138
Gateway Advising and Transfer Center	Room A-120
Financial Aid	Room A-128
Math Tutoring	Room S-103
Wellness Center	Room S-106
Wright in Your Corner (Student Center)	Room S-100
Writing Center (for help with papers)	Room L-213