

COURSE SYLLABUS
MA 110, FINITE MATHEMATICS



I. INSTRUCTOR INFORMATION

- A. Name: Dr. Ashley Johnson
- B. Office: MAB 118
- C. Office Phone Number: 256-765-4182
- D. E-mail Address: ajohnson18@una.edu
- E. Website: buildingthepride.com/faculty/ajohnson18
- F. Office Hours: Monday - Friday, 10:00 - 10:45 and by appointment.

II. COURSE INFORMATION

- A. Finite Mathematics, MA 110, 3 Semester Hours
- B. Summer 2014, Section 02
- C. MTWThF 11:50 am - 1:50 pm, MAB 10.
- D. Prerequisites : A minimum mathematics ACT score of 22 and credit in high school Algebra I, Algebra II, and Geometry; or grade of C or better in Intermediate Algebra (MA 100); or Mathematics for Liberal Arts (MA105).
- E. Course Description: This course is intended to give an overview of topics in finite mathematics together with their applications and is taken primarily by students who are not majoring in science, engineering, commerce, or mathematics (i.e., students who are not required to take calculus). The course includes sets, counting, permutation, combinations, basic probability (including Bayes Theorem), an introduction to statistics (including work with Normal Distribution), matrices and their applications to Markov chains and decision theory. Additional topics may include Binomial Distribution, symbolic logic, linear models, linear programming, the simplex method and applications
- F. Course Objectives: The student shall demonstrate knowledge of counting techniques (including permutations and combinations), basic probability, (including Bayes Theorem), basic statistics, matrices and their applications to Markov chains and decision theory.
- G. Course Content
 - a. Set Theory
 - i. Introduction to sets
 - ii. Subsets
 - iii. Complement, union and intersection of sets
 - iv. Venn Diagrams
 - v. Applications
 - b. Probability
 - i. Basic Concepts

- ii. Conditional probability
 - iii. Bayes Theorem
- c. Counting Principles
 - i. Permutation and combinations
 - ii. Applications of Counting
 - iii. Binomial Probability
 - iv. Probability distribution and expected value
- d. Statistics
 - i. Measures of central tendency
 - ii. Measures of variation
 - iii. Normal distribution
 - iv. Binomial distribution (optional)
- e. Matrices
 - i. Addition and scalar multiplication
 - ii. Matrix multiplication
- f. Application
 - i. Markov chains and applications
 - ii. Decision making (game theory)

III. TEXTBOOK AND SOFTWARE

- A. Textbook: Finite Mathematics by Lial, Greenwell and Ritchey (8 th edition). ISBN 0-321-22826-X
- B. Software: None
- C. Calculator Policy: Each student is required to have a non-graphing calculator. You are not allowed to use your cell phone for a calculator.

IV. ACCOMMODATIONS

In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, the University offers reasonable accommodations to students with eligible documented learning, physical and/or psychological disabilities. Under Title II of the Americans with Disabilities Act (ADA) of 1990, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Amendment Act of 2008, a disability is defined as a physical or mental impairment that substantially limits one or more major life activities as compared to an average person in the population. **It is the responsibility of the student to contact Disability Support Services to initiate the process to develop an accommodation plan.** This accommodation plan will not be applied retroactively. Appropriate, reasonable accommodations will be made to allow each student to meet course requirements,

but no fundamental or substantial alteration of academic standards will be made. Students needing assistance should contact Disability Support Services (256-765-4214).

V. **ACADEMIC HONESTY POLICY** Students are expected to be honorable and observe standards of conduct appropriate to a community of scholars. Additionally, students are expected to behave in an ethical manner. Individuals who disregard the core values of truth and honesty bring disrespect to themselves and the University. A university community that allows academic dishonesty will suffer harm to the reputation of students, faculty, and graduates. Incidents of possible student academic dishonesty will be addressed in accordance with the guidelines found at the following link:

<http://www.una.edu/student-conduct/policies-and-procedures/academic-honesty.html>

VI. **ATTENDANCE POLICY**

Regular and punctual attendance is expected of all students. Whenever a student's cumulative absences for any reason excused or unexcused exceed four days of scheduled classes, no credit may be earned for the course. The student will either withdraw from the course or receive an F for the course grade. Any exceptions to this policy will be in accordance with the university policy.

VII. **COURSE WORK**

Quizzes

There will be a short quiz at the beginning of class daily. The quiz will mainly cover the material from the previous day's class and will be open book/open note.

Homework

Homework will be assigned for each section. While it will not be collected, your completion of the homework is essential for your success on quizzes and exams.

In order to really understand the subject matter, you **must** do the homework problems. The earlier you start them, the more time you have to get help should you require it.

VIII. **EXAMS**

There will be four exams in this course.

IX. **FINAL EXAM**

- A. The final examination is on **Monday, July 28** from 11:50 am to 1:50 pm
- B. The final examination is comprehensive and multiple choice.
- C. The final examination is worth 25% of the total and it is departmental.

X. **GRADING SCALE**

Grades will be assigned according to the following scale:

- A 90% - 100%
- B 80% - 89%
- C 70% - 79%
- D 60% - 69%
- F Below 60%

XI. GRADING PLAN

The grades for the course will be determined by the following:

15%	Quizzes (Q)
60%	Exams (E)
25%	Final Exam (F)

XII. GENERAL COMMENTS BY INSTRUCTOR

Again, your regular attendance is expected in the course, but should you have to miss a class, please notify me in advance. I do not allow make up quizzes, but at the end of the term, I will drop a few.

Should you need to get in touch with me, the email address listed at the top of this syllabus is the best way to do so. When emailing me, or any professor, please include a a brief subject line to tell me what you're emailing about, a salutation, your name at the bottom and please use complete sentences. My Angel email forwards to my Portal email. If you write me on Angel, I will respond on Portal.

Students who need additional help with homework or concepts covered in any math class may schedule a FREE individual consultation with a Mathematics Consultant through the Mathematics Learning Center (MLC). The link to set up a consultation is: <http://www.una.edu/successcenter/mlc/index.html> Freshmen are invited to attend the FOCUS sessions (Rivers Hall) for additional help in all subjects.