## Math 1300 Fall 2014 Syllabus

| Section: |  |
| :--- | :--- |
| Instructor: |  |
| Office: |  |
| Office Phone: |  |
| Email: |  |
| Office Hours: |  |

## COURSE DESCRIPTION

Math 1300 introduces students to the fundamental concepts of mathematics relevant to business and social science applications. These include financial mathematics, linear algebra, linear programming, combinatorics, probability and statistics. At the successful conclusion of this course, students will be able to perform the following.

1. Show solid conceptual understanding of the fundamental ideas and tools of the mathematical topics covered.
2. Demonstrate the ability to independently identify and use the appropriate tools to solve real-life problems.

## PREREQUISITES

In order to satisfy the prerequisite requirements for Math 1300, students must satisfy ONE of the following criteria:
$\checkmark$ C- or higher grade in Math 1100 or Math 1160 (or transfer equivalent)
$\checkmark$ Credit by exam for Math 1100 (Proctored ALEKS Exam score of $66 \%$ or higher)
$\checkmark$ College Algebra exemption AND ALEKS Exam score of 66\% or higher dated 09/15/2013 or later
Note: Students who are exempt from College Algebra must still earn the minimum ALEKS score in order to take Math 1300.
Students who do not satisfy the prerequisite requirements will be dropped from Math 1300. It is your responsibility to provide appropriate documentation for satisfying these prerequisites and to check that the corresponding documentation has been entered in the MU system.

## TEXTBOOK AND ONLINE HOMEWORK ACCESS

The textbook for this course is Finite Mathematics and Its Applications by Goldstein, Schneider and Siegel, $11^{\text {th }}$ Edition.
At a minimum, all students are required to have access to MyMathLab and the online eTextbook, ISBN 9781269605922.
Students who would like to purchase a physical textbook, access to MyMathLab and the online eTexbook should order ISBN 9781269607377.

## CALCULATOR

In this course, students are required to have a scientific calculator for use on exams and quizzes; graphing calculators are prohibited. Any calculator with power functions, root functions, logarithms and exponential functions is sufficient. The MU Bookstore sells a number of inexpensive and acceptable scientific calculators. For example, the TI-30Xa is a standard scientific calculator which sells for around $\$ 14.99$ at the MU Bookstore. Any of the calculators in the TI- 30 series are acceptable for use on exams and quizzes in this course.

As noted above, graphing calculators are not permitted for use on exams or quizzes. For example, Texas Instruments graphing calculators, such as those in the TI-83 series, TI-84 series, the TI-86, TI-89, TI-Nspire and Voyage 200 are not permitted. Similarly, the Casio line of graphing calculators, such as the CASIO FX-9750G (or GA) Plus or CASIO CFX-9850GC Plus cannot be used.

Business and financial calculators such as the TI-BAII, TI-BA II Plus and similar models are not prohibited, but often have features which make them difficult to use without reading the manual.

It is very important that students remember to bring an appropriate, functioning calculator to each exam, and that they know how to use it. Instructors will not have extra calculators that can be borrowed, and students who take exams and quizzes without a calculator will not be graded by a different standard.

## GRADING

Final grades will be based on 3 midterm exams, 1 final exam, approximately 10 in-class quizzes (lowest score dropped) and 12 online homework assignments (lowest 2 scores dropped). Final grades will be weighted as follows:

Midterm Exams 45\%
Final Exam 30\%
Homework 20\%
In-Class Quizzes 5\%

## EXAMS

Below is a summary of dates, times and sections covered on the midterm and final exams.

| Exam | Day/Date | Time | Textbook Sections |
| :---: | :---: | :---: | :---: |
| 1 | Wednesday <br> 17-Sep | $6: 30-7: 30 \mathrm{PM}$ | 10.1-10.4, 2.1-2.2 |
| 2 | Wednesday <br> 15-Oct | $6: 30-7: 30 \mathrm{PM}$ | $2.3-2.5,3.1-3.3$ |
| 3 | Wednesday <br> 19-Nov | $6: 30-7: 30 \mathrm{PM}$ | 5.1-5.6, 6.1-6.5 |
| Final | Thursday <br> $18-$ Dec | 3:00-5:00 PM | 7.1-7.5, All |

## ONLINE HOMEWORK

There will be 11 online homework assignments in this course. The two lowest scores for each student will be dropped and the remaining 9 assignments will account for $20 \%$ of each student's grade.

Homework assignments will generally be due Tuesday mornings at 8:00 AM. After the deadline, assignments can still be submitted for 50\% credit until 8:00 AM on Thursday, December 11. Aside from dropping the lowest two scores and allowing students to submit homework assignments after the deadline for $50 \%$ credit, there will be no additional deadline extensions for homework assignments. There will be no homework assignments due the week after each midterm exam.

## QUIZZES (In Class)

There will typically be 7 quizzes in this course. These quizzes will be timed and administered individually; students will not have access to notes or other materials. Quizzes will be administered at each instructor's discretion. The lowest score for each student will be dropped and the remaining quizzes will account for $5 \%$ of each student's grade.

No make-ups will be given for these quizzes, except for University sponsored travel. MU athletes who miss a quiz due to team travel must provide a letter or email from the Total Person Program or University sponsor. Any quizzes missed for this reason must be made up within one week.

## CLASS ATTENDANCE

Attendance is vital to your success in this course. Students are expected to attend all scheduled class sessions, and attendance will be taken regularly. Students who miss class for any reason are responsible for learning any material covered, obtaining any materials distributed and being aware of any announcements made by the instructor. Students who arrive late or leave early will be considered absent.

All absences are treated equally. There are no "excused" and "unexcused" absences.

Any student with 9 or more absences and an exam average lower than C-may be dropped from the class due to poor attendance. (Students who reach their $9^{\text {th }}$ absence the week of December 8 will not be dropped from the class since this is past the withdrawal deadline).

## GRIEVANCE POLICY

If you have a complaint regarding this course or your instructor, please contact the course coordinator, Steven Goldschmidt (goldschmidtsr@missouri.edu). You may also contact the Mathematics Department's Director for Undergraduate Studies, Professor Ian Aberbach (aberbachi@missouri.edu).

## UNIVERSITY POLICIES

All University policies, rules and regulations are incorporated by reference into this course syllabus. You can find a statement of these polices rules and regulations in the M-book, available at http://studentlife.missouri.edu/mbook.php

## Academic Dishonesty

Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious consequences that range from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor.

Academic Dishonesty includes but is not necessarily limited to the following:
$\checkmark$ Cheating or knowingly assisting another student in committing an act of cheating or other academic dishonesty.
$\checkmark$ Plagiarism which includes but is not necessarily limited to submitting examinations, themes, reports, drawings, laboratory notes, or other material as one's own work when such work has been prepared by another person or copied from another person.
$\checkmark$ Unauthorized possession of examinations or reserve library materials, or laboratory materials or experiments, or any other similar actions.
$\checkmark$ Unauthorized changing of grades or markings on an examination or in an instructor's grade book or such change of any grade report.

Academic Integrity Pledge: Students are expected to adhere to this pledge on all graded work whether or not they are explicitly asked in advance to do so: "I strive to uphold the University values of respect, responsibility, discovery, and excellence. On my honor, I pledge that I have neither given nor received unauthorized assistance on this work."

The University has specific academic dishonesty administrative procedures. Although policy states that cases of academic dishonesty must be reported to the Office of the Provost for possible action, the instructor may assign a failing grade for the assignment or a failing grade for the course, or may adjust the grade as deemed appropriate. The instructor also may require the student to repeat the assignment or to perform additional assignments. In instances where academic integrity is in question, faculty, staff and students should refer to Article VI of the Faculty Handbook. Article VI is also available in the MBook. Article VI provides further information regarding the process by which violations are handled and sets forth a standard of excellence in our community.

## University of Missouri-Columbia Notice of Nondiscrimination

The University of Missouri System is an Equal Opportunity/Affirmative Action institution and is nondiscriminatory relative to race, religion, color, national origin, sex, sexual orientation, age, disability or status as a Vietnam-era veteran. Any person having inquiries concerning the University of Missouri-Columbia's compliance with implementing Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Americans With Disabilities Act of 1990, or other civil rights laws should contact the Assistant Vice Chancellor, Human Resource Services, University of Missouri-Columbia, 130 Heinkel Building, Columbia, Mo. 65211, (573) 882-4256, or the Assistant Secretary for Civil Rights, U.S. Department of Education.

## Accommodations For Students With Disabilities

From the University Disability Center:
"If you anticipate barriers related to the format or requirements of this course, if you have emergency medical information to share, or if you need to make arrangements in case the building must be evacuated, please let your instructor know as soon as possible.

If disability related accommodations are necessary (for example, a note taker, extended time on exams, captioning), please register with the Disability Center (http://disabilitycenter.missouri.edu), S5 Memorial Union, 573-882-4696, and then notify the course coordinator of your eligibility for reasonable accommodations. For other MU resources for persons with disabilities, click on "Disability Resources" on the MU homepage."

## OTHER MATH 1300 POLICIES

$\checkmark$ Make-up exams will only be given to students who have an approved excuse (see below). Students who know in advance that they will be absent must submit a request at least one week in advance to the course coordinator. Approved excuses include the following: (a) the exam time overlaps with the official meeting time of a Mizzou class in which the student is enrolled, (b) the exam overlaps with another Mizzou exam which the student is required to take, (c) the exam overlaps with participation in a University sanctioned athletic or academic event, (d) the student has a serious medical condition or (e) the student has a death in the immediate family. Documentation is required for each of these circumstances. Students must contact the course coordinator to find out what documentation is required and to schedule a make-up exam.

Students who anticipate an exam conflict with any University sanctioned activity or University sanctioned travel should contact the course coordinator (goldschmidtsr@missouri.edu) at the beginning of the semester. Students who have a chronic medical condition that may cause them to miss exams without prior warning should contact the course coordinator at the beginning of the semester. Students who become ill the day of the exam should immediately seek in-person medical attention for purposes of documenting the illness and their inability to take the exam. Students who are informed of a death in the immediate family the day of the exam should immediately contact the course coordinator.

## Students who miss exams or who arrive more than 30 minutes late due to personal negligence will receive no credit.

$\checkmark$ Make-up exams will NOT be offered to accommodate the following: personal travel such as vacations, weddings or graduations; work schedules; court appearances; university events (other than sanctioned athletic or academic events) such as fraternity and sorority events, intramural sports or club activities.

## Math 1300 Fall 2014

Calendar

|  | Date | Day | Lecture (Section) | Lecture (Topic) | Homework | Exam/Other |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & -\vec{u} \\ & \stackrel{\rightharpoonup}{0} \\ & 3 \end{aligned}$ | 25-Aug | Mon | 10.1 | Interest |  | Syllabus and Class Policies |
|  | 26-Aug | Tue |  |  |  |  |
|  | 27-Aug | Wed | 10.1/10.2 | Annuities |  |  |
|  | 28-Aug | Thu |  |  |  |  |
|  | 29-Aug | Fri | 10.2 | Annuities |  |  |
| $\begin{aligned} & \text { N } \\ & \ddot{\#} \\ & \text { \# } \end{aligned}$ | 1-Sep | Mon | Labor Day - No Class |  |  |  |
|  | 2-Sep | Tue |  |  | HW 1 - Due 8:00 AM |  |
|  | 3-Sep | Wed | 10.3 | Amortization of Loans |  |  |
|  | 4-Sep | Thu |  |  |  |  |
|  | 5-Sep | Fri | 10.4 | Personal Financial Decisions |  |  |
| $\begin{aligned} & m \\ & \text { ひ } \\ & \stackrel{0}{0} \end{aligned}$ | 8-Sep | Mon | 10.4 | Personal Financial Decisions |  |  |
|  | 9-Sep | Tue |  |  | HW 2 - Due 8:00 AM |  |
|  | 10-Sep | Wed | 2.1 | Systems of Linear Equations |  | Deadline: Exam 1 Make-Up Requests |
|  | 11-Sep | Thu |  |  |  |  |
|  | 12-Sep | Fri | 2.2 | General Systems of Linear Equations |  |  |
| $\begin{aligned} & \stackrel{\rightharpoonup}{\ddot{2}} \\ & \stackrel{1}{\#} \end{aligned}$ | 15-Sep | Mon | Catch Up/Review | Catch Up/Review |  |  |
|  | 16-Sep | Tue |  |  | HW 3 - Due 8:00 AM |  |
|  | 17-Sep | Wed | Exam 1 Review | Exam 1 Review |  | EXAM 1, 6:30-7:30 PM |
|  | 18-Sep | Thu |  |  |  |  |
|  | 19-Sep | Fri | No Class |  |  |  |
| $\begin{aligned} & \text { n } \\ & \text { « } \\ & \frac{0}{2} \end{aligned}$ | 22-Sep | Mon | 2.3 | Arithmetic Operations on Matrices |  |  |
|  | 23-Sep | Tue |  |  |  |  |
|  | 24-Sep | Wed | 2.4 | Inverses of Matrices |  |  |
|  | 25-Sep | Thu |  |  |  |  |
|  | 26-Sep | Fri | 2.5 | Gauss-Jordan Method |  |  |
| $\begin{aligned} & \bullet \\ & \ddot{\#} \\ & \stackrel{0}{\#} \end{aligned}$ | 29-Sep | Mon | 2.5 | Gauss-Jordan Method |  | Last Day - Drop Without Grade |
|  | 30-Sep | Tue |  |  | HW 4 - Due 8:00 AM |  |
|  | 1-Oct | Wed | 3.1 | Linear Programming - Introduction |  |  |
|  | 2-Oct | Thu |  |  |  |  |
|  | 3-Oct | Fri | 3.2 | Linear Programming - Fundamental Theorem |  |  |
| $\begin{aligned} & \text { N} \\ & \text { \# } \\ & \text { \# } \end{aligned}$ | 6-Oct | Mon | 3.3 | Linear Programming Applications |  |  |
|  | 7-Oct | Tue |  |  | HW 5 - Due 8:00 AM |  |
|  | 8-Oct | Wed | 3.3 | Linear Programming Applications |  | Deadline: Exam 2 Make-Up Requests |
|  | 9-Oct | Thu |  |  |  |  |
|  | 10-Oct | Fri | 3.3 | Linear Programming Applications |  |  |
| $\begin{aligned} & \infty \\ & \text { \# } \\ & \text { \# } \end{aligned}$ | 13-Oct | Mon | Catch Up/Review | Catch Up/Review |  |  |
|  | 14-Oct | Tue |  |  | HW 6 - Due 8:00 AM |  |
|  | 15-Oct | Wed | Exam 2 Review | Exam 2 Review |  | EXAM 2, 6:30-7:30 PM |
|  | 16-Oct | Thu |  |  |  |  |
|  | 17-Oct | Fri | No Class |  |  |  |
| $\begin{aligned} & \sigma \\ & \frac{2}{\ddot{2}} \\ & \stackrel{1}{\#} \end{aligned}$ | 20-Oct | Mon | 5.1 | Sets |  |  |
|  | 21-Oct | Tue |  |  |  |  |
|  | 22-Oct | Wed | 5.2 | Fundamental Principle of Counting |  |  |
|  | 23-Oct | Thu |  |  |  |  |
|  | 24-Oct | Fri | 5.3 | Venn Diagrams and Counting |  |  |


| $\begin{aligned} & \text { O} \\ & \stackrel{\rightharpoonup}{0} \\ & \stackrel{0}{0} \end{aligned}$ | 27-Oct | Mon | 5.4 | Multiplication Principle of Counting |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 28-Oct | Tue |  |  | HW 7 - Due 8:00 AM |  |
|  | 29-Oct | Wed | 5.5 | Permutations and Combinations |  |  |
|  | 30-Oct | Thu |  |  |  |  |
|  | 31-Oct | Fri | 5.6 | Further Counting Techniques |  |  |
| $\begin{aligned} & \text { न̈ } \\ & \stackrel{\rightharpoonup}{0} \\ & \stackrel{0}{0} \end{aligned}$ | 3-Nov | Mon | 6.1 | Experiments, Outcomes and Events |  |  |
|  | 4-Nov | Tue |  |  | HW 8-Due 8:00 AM |  |
|  | 5-Nov | Wed | 6.2 | Assignment of Probabilities |  |  |
|  | 6-Nov | Thu |  |  |  |  |
|  | 7-Nov | Fri | 6.3 | Calculating Probabilities |  |  |
| $\begin{aligned} & \tilde{\sim} \\ & \stackrel{\rightharpoonup}{\otimes} \\ & \stackrel{y}{*} \end{aligned}$ | 10-Nov | Mon | 6.4 | Conditional Probability and Independence |  |  |
|  | 11-Nov | Tue |  |  | HW 9- Due 8:00 AM |  |
|  | 12-Nov | Wed | 6.4 | Conditional Probability and Independence |  | Deadline: Exam 3 Make-Up Requests |
|  | 13-Nov | Thu |  |  |  |  |
|  | 14-Nov | Fri | 6.5 | Tree Diagrams |  |  |
| $\begin{aligned} & \underset{\sim}{l} \\ & \stackrel{\rightharpoonup}{0} \\ & \stackrel{y}{2} \end{aligned}$ | 17-Nov | Mon | Catch Up/Review | Catch Up/Review |  |  |
|  | 18-Nov | Tue |  |  | HW 10- Due 8:00 AM |  |
|  | 19-Nov | Wed | Exam 3 Review | Exam 3 Review |  | EXAM 3, 6:30-7:30 PM |
|  | 20-Nov | Thu |  |  |  |  |
|  | 21-Nov | Fri | No Class |  |  |  |
| $\begin{aligned} & \underset{\sim}{J} \\ & \stackrel{\rightharpoonup}{0} \\ & \stackrel{y}{0} \end{aligned}$ | 24-Nov | Mon | Thanksgiving - NoClass |  |  |  |
|  | 25-Nov | Tue |  |  |  |  |
|  | 26-Nov | Wed | Thanksgiving - NoClass |  |  |  |
|  | 27-Nov | Thu |  |  |  |  |
|  | 28-Nov | Fri | Thanksgiving - NoClass |  |  |  |
| $\begin{aligned} & \stackrel{\sim}{ح} \\ & \stackrel{\rightharpoonup}{凶} \\ & \stackrel{y}{*} \end{aligned}$ | 1-Dec | Mon | 7.1/7.2 | Frequency and Probability Distributions |  |  |
|  | 2-Dec | Tue |  |  |  |  |
|  | 3-Dec | Wed | 7.3 | Binomial Trials |  |  |
|  | 4-Dec | Thu |  |  |  |  |
|  | 5-Dec | Fri | 7.4 | Mean |  |  |
| $\begin{aligned} & 0 \\ & \stackrel{\rightharpoonup}{\check{0}} \\ & \stackrel{\rightharpoonup}{凶} \end{aligned}$ | 8-Dec | Mon | 7.5 | Variance and Standard Deviation |  | Last Day - Withdraw from Class |
|  | 9-Dec | Tue |  |  |  | Deadline: Final Exam Make-Up Requests |
|  | 10-Dec | Wed | Final Exam Review | Final Exam Review |  |  |
|  | 11-Dec | Thu |  |  | HW 11- Due 8:00 AM | HW 1-10 Late w Penalty - Due 8:00 a.m. |
|  | 12-Dec | Fri | Reading Day - No Class |  |  |  |
| $\begin{aligned} & \frac{n}{N} \\ & \stackrel{i}{5} \end{aligned}$ | 15-Dec | Mon |  |  |  |  |
|  | 16-Dec | Tue |  |  |  |  |
|  | 17-Dec | Wed |  |  |  |  |
|  | 18-Dec | Thu |  |  |  | FINAL EXAM, 3:00-5:00 PM |
|  | 19-Dec | Fri |  |  |  |  |

