MATH 166 Syllabus
Fall 2011
Section 502: TR 12:45-2:00pm BLOC 166
Section 200 (Honors): TR 9:35-10:50am ZACH 128A

Instructor Information:

Instructor:	Benjamin Aurispa	*Office:* Blocker 630D	*Math Dept. Phone:* (979) 845-3261

Office Hours: Tuesdays 3-4:30pm, Wednesdays 10:30-noon, or by appointment

E-mail: baurispa@math.tamu.edu. Please include your name and section number in any email you send me.
Check your TAMU email account **daily**, because this is where class emails will be sent.

Webpage: www.math.tamu.edu/~baurispa – Check regularly for announcements and important information, as well as for lecture notes, a daily schedule, and other helpful links.

Catalog Description: Math 166: Topics in Contemporary Mathematics II. (Credit 3) Finite mathematics, matrices, probability and applications. *Prerequisites*: High school algebra I and II and geometry. Credit will not be given for more than one of Math 141 and 166.

Learning Objectives:
- Understand and apply the rules of logic and sets.
- Understand the principles of probability and counting and apply these concepts to a variety of problems.
- Identify types of random variables and be able to calculate probabilities and statistics for these random variables.
- Apply the concepts of finance to real-world situations.
- Understand matrices and their applications, including solving systems of linear equations and solving problems involving Markov processes.

Required Materials:

Textbook: Applied Finite Mathematics, 2nd Ed, by Tomastik/Epstein. You paid for an electronic version of this textbook (eBook) through the online system WebAssign when you paid your course fees. Information on how to access your eBook can be found under the "Student Information Page" at http://www.math.tamu.edu/courses/eHomework. You are welcome to purchase a physical copy of the textbook or a loose-leaf copy of the text if you prefer, but this is not required.

Calculator: A TI-83/84 or TI-83/84 Plus is required for this class. If you want to use a calculator other than these, it may NOT perform symbolic mathematics and you must have my permission. Bring your calculator to class *every day* since we will be using them frequently and you may need it for a quiz. Calculators will be allowed on exams, but ALL memory must be reset and cleared before each exam. Having any unauthorized programs or applications on your calculator or the use of any unauthorized type of calculator (such as the TI-89) during exams or quizzes will be considered a case of academic dishonesty and reported to the Aggie Honor Council.

Course Policies:

Grading:

	Weight	Final Grade Ranges
Homework:	10%	$90\% \leq A \leq 100\%$
Quizzes:	15%	$80\% \leq B < 90\%$
3 In-Class Exams: 3 @ 17% each:	51%	$70\% \leq C < 80\%$
Final Exam:	24%	$60\% \leq D < 70\%$
		$0\% \leq F < 60\%$

Due to FERPA privacy issues, I cannot discuss grades over email or phone. If you have a question about your grade, please come see me in person.

Exams: There will be **3 in-class exams** during the semester. Bring your Texas A&M student ID and your calculator to all exams. The tentative material and dates for the exams are as follows:

Exam 1:	**Thursday, September 22**	**(Sections L.1-L.2, 1.1-1.7)**
Exam 2:	**Thursday, October 20**	**(Sections 2.1-2.4, 3.1-3.4)**
Exam 3:	**Thursday, November 17**	**(Sections F.1-F.4, 4.3-4.4, 5.1-5.3)**

*Note: The honors section may have additional information and special topics covered on exams. See Tentative Schedule.

Final Exam: The final exam will be **cumulative**. The day and time of the final exam are determined by the university.
Section 502: Friday, December 9, 12:30-2:30pm, BLOC 166
Section 200: Friday, December 9, 7:30-9:30am, ZACH 128A

Graded Homework: Graded homework assignments will be primarily done online, but may include the occasional written assignment. Online homework will be done in WebAssign. Access to WebAssign was included in your course fees. Other important information such as how to log in, how to access and take assignments, and the Student Help Request Form can be found at http://www.math.tamu.edu/courses/eHomework. I suggest you bookmark this page and visit it before you log in to WebAssign each time.

*Technical Note: In order for some features of WebAssign to work properly, you should use Mozilla Firefox and have the most updated versions of Flash and Java on your computer.

Suggested Homework: Math cannot be learned by watching someone else do math. It requires a lot of practice. On my webpage there is a list of suggested homework. I STRONGLY suggest that you do these problems for more practice in addition to the online homework. They will not be collected, but doing them to help you learn the material is very important.

Quizzes: There will be quizzes given throughout the semester (about once a week) and may be announced or unannounced, in class or take home, so please keep up with the material. I will drop at least one quiz grade at the end of the semester.

Make-up Policy: Make-up exams and quizzes or late homework will NOT be allowed unless a **University approved reason is given to me in writing**. Notification before the absence is required when possible. Otherwise, you must notify me within 2 working days of the missed exam, quiz, or assignment to arrange a makeup. See University Student Rules for more guidelines. In all cases where an exam/quiz/assignment is missed due to an injury or illness, whether it be more or less than 3 days, **I require a doctor's note**. Further, an absence due to a non-acute medical service or appointment (such as a regular checkup) is *not* an excused absence.

Grade Appeals: If you believe an error has been made in grading, you have until the next class period after the exam, quiz, or assignment has been handed back to let me know. Otherwise, you must accept the grade you received.

Help Session and Week in Review: Help sessions are come-and-go times where you can ask questions and get help with your homework from the student Help Session leaders. For more information, see the link on my webpage. The Week in Review is a weekly session led by an instructor to review the topics of the previous week and to provide additional examples. On exam weeks, the Week in Review will be an Exam Review. This semester, I will be doing the Week in Review. See the Week in Review link on my webpage for day/time/location and also to print off the problem sets.

Streaming Videos: There are streaming videos online with extra problems that you can take advantage of.

Copyright: All printed handouts and web-materials are protected by US Copyright Laws. No multiple copies can be made without written permission by the instructor.

ADA Policy: The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu.

Academic Integrity Statement: Cheating and other forms of academic dishonesty **will not** be tolerated. Please do not compromise your integrity for the sake of temporary benefits.
<p style="text-align:center">Aggie Honor Code: "An Aggie does not lie, cheat, or steal, or tolerate those who do."</p>
Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. For more information on academic integrity, see the Honor Council Rules and Procedures at http://www.tamu.edu/aggiehonor.

Note: As with any math class, it is *very* important that you keep up with the material and that you do not fall behind. Please don't hesitate to ask questions in class, to come to my office hours, or to send me an e-mail. My goal is not to cram information into your head, but to help you learn. If you are not understanding the concepts, please ask for help. Don't wait until the day before an exam to try and grasp the material. There are Week in Reviews and Help Sessions regularly, as well as my office hours, streaming videos, and other materials online. Please take advantage of these resources.

<u>Tentative Schedule:</u>

Week 1 – L.1 (Logic), L.2 (Truth Tables), 1.1 (Sets)

Week 2 – 1.1, 1.2 (Number of Elements in a Set), 1.3 (Sample Spaces and Events), 1.4 (Basics of Probability)

Week 3 – 1.4, 1.5 (Rules for Probability), 1.6 (Conditional Probability and Independent Events)

Week 4 – 1.7 (Bayes' Theorem), Review, **EXAM 1** (L.1, L.2, 1.1-1.7).

Week 5 – 2.1 (Multiplication Principle and Permutations), 2.2 (Combinations)

Week 6 – 2.3 (Probability Applications of Counting Principles), 2.4 (Bernoulli Trials), 3.1 (Random Variables and Histograms)

Week 7 – 3.1, 3.2 (Measures of Central Tendency), 3.3 (Measures of Spread)

Week 8 – 3.4 (The Normal Distribution), Review, **EXAM 2** (2.1-2.4, 3.1-3.4).

Week 9 – F.1 (Simple Interest), F.2 (Compound Interest), F.3 (Annuities and Sinking Funds)

Week 10 – F.4 (Present Value and Amortization), Intro to Systems, 4.3 (Gauss Elimination),4.4 (Systems with Non-Unique Solutions)

Week 11 – 4.4, 5.1 (Matrices), 5.2 (Matrix Multiplication with Applications)

Week 12 – 5.3 (Inverse Matrices), Review, **EXAM 3** (F.1-F.4, 4.3-4.4, 5.1-5.3). .

Week 13 – M.1 (Markov Processes), Thanksgiving

Week 14 – M.1, M.2 (Regular Markov Processes), M.3 (Absorbing Markov Processes)

Week 15 – Review

*The honors section will cover these topics in approximately the same schedule, but with additional information and more challenging examples included. There may also be special topics included in lecture such as Linear Regression, Linear Programming, and Game Theory.   In the Honors Lab, you will learn various technology applications of topics listed above (see Math 285 Syllabus).