

**Course Outline**  
**Math 1325 - 200**  
**Fall, 2007**

**INSTRUCTOR:** Matthew Hudock                      **OFFICE:** NTB 304

**OFFICE HOURS:** Monday, Wednesday, Friday      7 am - 8 am (NTB 304)  
Tuesday, Thursday                              7 am - 9 am (NTB 304)  
Monday, Wednesday, Friday                  1 pm - 2:30 pm (NTB 304 or 307)  
Tuesday    6:15 pm - 6:45 pm (NTB 304)

**PHONE NUMBER:** (210) 531-4884 (Mathematics Dept. (210) 531-3400)

**FAX NUMBER:** (210) 531-4675                      **E-MAIL:** mhudock@mail.accd.edu

**WEBSITE:**                              www.countingbear.com

**CLASSROOM/TIME:**              Tuesdays, 6:45 - 9:30 pm, NTB 315

**PERFORMANCE MEASURES:** During the semester, there will be four unit tests, Three Written Projects, an Integration Project, and a comprehensive final exam. It is the Math Department policy that in order to pass this course, you must have overall average of 60%. Your final average will be calculated by:

Four Tests (12% each) .....	48%
Integration Project .....	12%
Written Projects .....	20%
Final .....	20%

The following scale will be used in assigning grades:

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

**TEST POLICY:** All tests will be closed books and closed notes. They must be taken in one sitting and no help of any kind is allowed. All electronic devices except for a scientific calculator must be turned off and put away during a test. If you need additional time than the allotted class time to take the test, you must make arrangements with the instructor to do so the class period before the test. The test must be taken on the day they are schedule. There are no make-up tests unless extreme circumstances warrant otherwise and are brought to my attention prior to the test. In cases of emergencies, I expect you to call me or the Math Department ((210) 531 - 3400) and leave a message. No tests scores will be dropped and no curves. On all tests, you will be allowed to use one 3 in by 5 in index card with any handwritten notes on that card.

**CELL PHONES:** All cell phones must be turned off or put into vibrate mode during class. If you get a phone call that you must answer, quietly leave the room and then answer the call.

**STUDENT RESPONSIBILITIES:**

**ATTENDANCE/TARDY POLICY:** It is extremely difficult to learn if you miss the explanation of how the work is done. Attendance is required for the class and will be

recorded during each class period. A sheet will be passed around at the beginning of class and **IT IS YOUR RESPONSIBILITY** to sign by your name. Failure to do this will result in you being recorded as absent. You are expected to attend every class. If you accumulate absences equivalent to two weeks of class (one week during the summer), you may be dropped from this course for excessive absences unless extreme circumstances warrant otherwise **and** are brought to my attention in a timely manner. You are considered absent if 1) you do not attend class, or 2) you are more than 15 minutes late to class, or 3) you leave more than 15 minutes early.

**TIME COMMITMENT:** In order to be successful in this course, you need to spend time every day on the material. The rule for this type of course is to spend 3 hours outside of class for every hour in class. Since we meet for 3 hours a week, that translates into 9 hours you need to spend on the course outside of class per week. So, you will need to spend a minimum of 1 hour and 15 min a day on this course outside of class.

**GETTING HELP:** Seek help immediately if you do not understand something or cannot do the summary exercises assignment. If you wait, you will not understand anything we are doing in class and you will get even more behind. It is absolutely critical that you keep up with the course since the material builds on itself. Do not be afraid to ask questions in class. The worst I will do to you is to ask you to see me after class. Also, remember you have several resources for getting help: the instructor, the tutors in NTB 116, and your classmates. Many students find a study group to be helpful as well. There is also a Math computer lab in NTB 305.

**HOMEWORK:** Homework will be assigned every class period and it is **your** responsibility to do the homework. You are expected to do all the assigned problems. Questions will be taken on those problems the next class period. You cannot learn a skill by watching other people all the time. You must practice yourself! Do three times as much practice as you do watching. To do well in this course, you must practice every day. Also, **participating** in study groups is a great way to learn from your peers. **SIMPLY PUT, IF YOU DO NOT DO YOUR HOMEWORK YOU WILL FAIL!**

**WRITTEN PROJECTS:** Three Written Projects will be assigned during the semester. The first two (5% each) will examine the world population and energy consumption using real data from the past several decades. The goal will to analyze the data from a global perspective and to use mathematical models to make future predictions. There will be several questions that you will have to answer. In the third written project (10%), you will work in groups of no more than three people and examine the educational system of a particular region of the world. The goal is to see what other parts of the world are doing to encourage people to major in Engineering, Mathematics, and Physics and how they are educating these people. Twenty-five percent will be deducted from the maximum score for every business day a paper is turned in late.

**MISSING CLASS:** If you should miss class, it is **your** responsibility to get a copy of any notes/handouts given in class. A copy of the notes and handouts will be posted on my website. You are responsible for all material covered in class.

**WITHDRAWING FROM THIS CLASS:** If you decide to stop attending, it is your responsibility to withdraw from the course by the day posted in the Class Schedule. Otherwise, you will receive an “F” for the course.

**GRADED PAPERS:** Any assignment or test that is not collected from your instructor within two weeks of when it was returned to the class or by the final exam day will be destroyed.

Date	Today's Activity	Tonight's Homework Assignment
Tue, Aug 28, 2007	Ch 1 - Functions, Graphs, and Models	Pg. 86 Ex. 1 - 36 all <i>Read Sect 2.1 - 2.3</i>
Tue, Sep 04, 2007	Sect 2.1 - Limits and Continuity: Numerically and Graphically Sect 2.2 - Limits: Algebraically Sect 2.3 - Average Rates of Change	Pg. 104 Ex. 5, 7, 9, 11, 13, 15, 19, 23, 29, 33 Pg. 111 Ex. 3 - 13 odd, 17 - 23 odd, 27 - 35 odd Pg. 119 Ex. 3, 7, 9, 13, 15, 19, 23, 27 <i>Read Sect 2.4 - 2.6</i>
Tue, Sep 11, 2007	Sect 2.4 - Differentiation Using Limits of the Difference Quotient Sect 2.5 - Differentiation Techniques: The Power & the Sum-Difference Rules Sect 2.6 - Instantaneous Rate of Change	Pg. 135 Ex. 7, 11, 15, 19, 23, 25, 27, 37 Pg. 146 Ex. 1 - 15 odd, 21, 23, 29, 33, 37, 41, 45, 47, 51, 55, 57, 59, 63, 71, 77, 79 Pg. 153 Ex. 3, 5, 7, 11, 13, 15, 25, 27 <i>Read Sect 2.7 - 2.9</i>
Tue, Sep 18, 2007	Sect 2.7 - Differentiation Techniques: The Product & Quotient Rules Sect 2.8 - The Chain Rule Sect 2.9 - Higher-Order Derivatives	Pg. 162 Ex. 1, 3, 9, 17, 19, 21, 23, 27, 33, 37, 41, 87, 91, 95, 97, 99 Pg. 171 Ex. 3, 7, 9, 13, 15, 21, 23, 27, 33, 39, 41, 45, 49, 53, 71, 73, 79 Pg. 176 Ex. 1 - 15 odd, 21, 23, 27, 33, 37, 41, 45 <i>Read Sect 3.1 - 3.3</i>
Tue, Sep 25, 2007	Sect 3.1 - Using the 1 <sup>st</sup> Derivative to Find the Maximum and Minimum Values & to Sketch Graphs Sect 3.2 - Using the 2 <sup>nd</sup> Derivative to Find the Maximum and Minimum Values & to Sketch Graphs Sect 3.3 - Graph Sketching: Asymptotes & Rational Functions	Pg. 178 Ex. 1 - 37 odd, 39 Pg. 199 Ex. 1, 3, 7, 17, 21, 25, 29, 61 Study for Test #1 over Ch 2 <b>Written Project #1 - World Population due 9/28</b> <i>Read 3.4</i>
Tue, Oct 02, 2007	Review <b>Test #1 over Ch 2</b> Sect 3.4 - Using Derivatives to Find the Absolute Maximum and Minimum Values	Pg. 215 Ex. 7, 9, 13, 15, 21, 25, 31, 37, 41, 85 Pg. 232 Ex. 1 - 15 odd, 19, 25, 33, 39, 41, 47, 49 Pg. 245 Ex. 1, 3, 7, 11, 15, 19, 23, 27, 31, 35, 51, 57, 63, 65, 71, 77, 97, 101 <i>Read Sect 3.5, 3.6, and 4.1</i>
Tue, Oct 09, 2007	Sect 3.5 - Maximum and Minimum Problems: Business & Economics Applications Sect 3.6 - Differentials Sect 4.1 - Exponential Functions	Pg. 261 Ex. 5, 7, 11, 13, 19, 21, 23, 27, 29, 35, 39, 41, 57 Pg. 271 Ex. 1, 5, 9, 11, 13, 17, 23, 27, 29, 31, 35 Pg. 298 Ex. 1, 3, 7 - 35 odd, 49, 53, 57, 63, 67 <i>Read Sect 4.2 - 4.4</i>
Tue, Oct 16, 2007	Sect 4.2 - Logarithmic Functions Sect 4.3 - Applications: Uninhibited Growth Sect 4.4 - Applications: Decay	Pg. 279 Ex. 1 - 30 all, 33, 34, 36 Pg. 314 Ex. 1 - 43 odd, 47, 49, 51, 55, 59, 63, 81, 83 Study for Test #2 over Ch3 <i>Read 4.5</i>

Date	Today's Activity	Tonight's Homework Assignment
Tue, Oct 23, 2007	Review <b>Test #2 over Ch 3</b> Sect 4.5 - Derivatives of $a^x$ and $\text{Log}_a x$	Pg. 328 Ex. 3, 7, 9, 15, 17, 21, 25, 27, 29, 33, 37, 43 Pg. 340 Ex. 1, 5, 7, 10 -15 all, 17, 21, 23, 27, 31, 35, 37, 41 Pg. 348 Ex. 1, 5, 9 - 27 odd, 31, 33 <b>Written Project #2 - Energy Consumption due 10/26</b> <i>Read 4.6, 5.1, &amp; 5.2</i>
Tue, Oct 30, 2007	Sect 4.6 - Elasticity of Demand Sect 5.1 - Integration Sect 5.2 - Area and Definite Integrals	Pg. 354 Ex. 3 - 15 odd Pg. 371 Ex. 1 - 25 odd, 29, 31, 33, 37, 43, 47, 57, 59, 67 Pg. 385 Ex. 1, 5, 9, 13, 17, 41, 43, 47, 51, 55, 57, 61, 67, 71 <i>Read Sect 5.3 - 5.5</i>
Tue, Nov 06, 2007	Sect 5.3 - Limits of Sums and Accumulations Sect 5.4 - Properties of Definite Integrals Sect 5.5 - Integration by Substitution	Pg. 356 Ex. 1 - 32 all Pg. 395 Ex. 5, 7, 13, 17, 21, 23, 25, 27, 33, 37 Study for Test #3 over Ch 4 <i>Read Sect 5.6</i>
Tue, Nov 13, 2007	Review <b>Test #3 over Ch 4</b> Sect 5.6 - Integration by Parts	Pg. 406 Ex. 1, 5, 9, 13, 17, 19, 23, 25 Pg. 412 Ex. 1, 5, 9, 13, 17, 21, 27, 31, 39, 45, 51, 55, 59, 63, 67, 69, 75, 79 Pg. 420 Ex. 1, 7, 11, 15, 19, 23, 31, 33, 37, 39, 41 <i>Read Sect 5.7 &amp; 6.1</i>
Tue, Nov 20, 2007	Integration Project Sect 5.7 - Integration Using Tables Sect 6.1 - Consumer's and Producer's Surplus	Pg. 426 Ex. 1, 5, 9, 11, 15, 19, 23, 27, 31, 35 Pg. 439 Ex. 1, 5, 9, 11, 13 <b>Integration Project Due at the Beginning of Class</b> <i>Read Sect 6.2 &amp; 6.3</i>
Tue, Nov 27, 2007	Integration Project Presentation Sect 6.2 - Applications of Models Sect 6.3 - Improper Integrals	Pg. 427 Ex. 1 - 28 all, 30 - 46 all Pg. 446 Ex. 1, 5, 9, 11, 15, 17, 19, 23, 27 Pg. 452 Ex. 5, 7, 9, 11, 13, 17, 21, 23, 27, 29, 31, 35, 39 <b>Written Project #3 – Meeting Future Demands due 11/30</b>
Tue, Dec 04, 2007	Review <b>Test #4 over Ch 5</b>	Pg. 489 Ex. 1 - 13 all, 37, 38 Study for the Final

**Final Exam is on Tuesday Dec. 11 from 6:45 - 8:35 pm in NTB 315**