Math 161: Algebra for Business and Economics.  

Section F61  
3 Credits

Time: MTWR; 2:00 – 3:50; Chapman 106

Instructor: Jim Massa

Office: Chapman 107; phone: 474-7273

Office Hours: MTWR: 12 – 2

Email: jmassa@alaska.edu


Prerequisites: A “C” or better IN DEVM 105 or DEVM 106, or two years of high school algebra and MATH 161 placement or higher. Students without prerequisites must show Accuplacer scores in the appropriate range immediately to maintain enrollment in the course. Free computerized testing is available at the Academic Testing Services at 211 Gruening building, phone (907) 474-5277 which is open M-F 8 am – 5 pm.

Description: This three credit course introduces functions of one and several variables with attention to linear, polynomial, rational, logarithmic and exponential functions as well as an introduction to geometric series. Applications will be applied to compound interest, present value and amortization problems. Linear systems of equations and inequalities will be discussed. This course is designed to prepare students for Business Calculus.

Objectives and Course Goals: The intent of this course is to master the nature of functions, including exponentials, logarithmic functions and linear systems. The course emphasis is the application to actual business situations and economics. Upon successful completion of this course, students will be able to do the following:

- Understand and know how to utilize the properties of the different types of functions
- Set up and solve equations for the desired quantity or variable
- Solve for a given variable in a formula
- Evaluate and simplify Algebraic expressions
- Utilize given formulas
- Create mathematical business models for actual situations
- Translate word expressions into algebraic expressions
- Apply the quadratic formula
- Calculate Simple and Compound Interest
- Determine monthly payment amounts, interest rates and principal in future values
- Solve Linear systems/Cramer’s Rule

Attendance: As this class is intensive and fast paced, it is to your great advantage to be here every day. Missing one day is equivalent to missing half a week. If you are not here, it is your responsibility to find out what material was covered.
**Exams:** There will be 3 midterm exams each worth 240 points and a comprehensive cumulative final exam worth 325 points. Make up exams will only be given for excused absences and documented emergencies and other crises.

**Course Evaluation:** Your HW will be done on Web Assign. There will be 2 HW per week for a total of 12 HW assignments each worth 50 points. There are the previously mentioned 3 midterm exams each worth 240 points and a final exam worth 325 points. Thus, there are a possible 600 points from the HW, 720 from the midterms and 325 from the final, yielding 1305 possible points. The breakdown is as follows:

- Homework.................. 20%
- Midterms..................... 55%
- Final.......................... 25%

99-100 % = A+
93-98 % = A
90-92 % = A-
87-89 % = B+
83-86 % = B
80-82 % = B- etc.

The above scale represents a guarantee. The instructor reserves the right to increase final grade standings.

To access the work on Web Assign, you will need two codes. The first came with your text book. If you are using a used text book, then you will need to purchase a code from web assign. Go to [www.webassign.net](http://www.webassign.net) to do so. You will also go to this website to set up your account and access the homework. In addition to the code that came with your book, you will need an additional code to access the specific material for this course. This code is: **uaf 3689 9070**

**Remarks:**

1) Math 161 explores important concepts for students studying business and economics.
2) Regular attendance is highly recommended for success in this course. If, for whatever reason, you cannot be in class, it is your responsibility to find out what was covered. Remember to stay on top of the due dates for the HW. This is your responsibility. Though many of the work is completed online, this is **NOT** an online class. You need to be in class as the explanations provided will help greatly with understanding the material and being able to complete the assignments.
3) The HW will reflect the material being covered and will come from the problems in the book (or problems very similar to those in the books). One gets good at math by practice, practice, practice. You should also work on the other problems in the book starting with the odd numbered problems as these problems contain the answers in your book. Keep working on these problems until you are comfortable with how to do them before attempting the web assign problems.
4) We will have the midterm exams after completion of 2 learning units. My policy is that **NO** makeup of tests will be given. I will consider a makeup **ONLY** in extreme emergencies, e.g. a death in the family. There is no guarantee that I will provide a makeup test. Basically, be here every day.
5) Getting help: see me during my office hours or set up an appointment. Also, USE the Math Lab (located in Chapman 305). We will not have time to go over HW problems in class. If you are having difficulties with a topic or a certain type of problem then make arrangements either with me or go to the math lab for help.
6) Calculators: Depending on the nature of the material covered for the midterms will determine if use of a calculator is allowed. However, you will not be allowed to use any of the programmable features or graphing
utilities that your calculator may have. Use of these features during an exam will result in your test being taken and a zero issued. Also, if calculators are allowed, this means actual calculators and not the app on your cell phone. I will not allow the use of cell phones as calculators. However, overall, I am not concerned with how well you can push buttons. Rather, I am concerned with you demonstrating sufficient comprehension of the material through analytical methods.

7) Cell Phones, Blackberries, iPhones, etc.: turn these things OFF when you come into class. Unless your job requires you to be on call, then place it on vibrate, otherwise, there is no reason for these items to be on. Calls and text messages going off in the middle of class is disruptive and rude. Please be courteous to others.

8) Incompletes (see below): A grade of Incomplete (I) will only be given in cases where the student has completed the majority of the work (normally all but the last week) with a grade of “C” or better, but for personal reasons beyond his/her control has been unable to complete the course during the regular term. Negligence or indifference or laziness are not acceptable reasons for requesting or being granted an incomplete grade.

9) Dishonesty: All work submitted should be your own. Cheating on an exam will result in an automatic zero. Cheating on the final exam will result in failure of the entire course. Also, requesting, as well as providing, information as to what material and questions are on the exams will result in a zero being issued for exams and failure for the entire course for final exam.

10) Withdrawals: A late withdrawal will be granted only in cases where the student is doing satisfactorily (“C” or better), but has exceptional reasons beyond his/her control has been unable to complete the course during the regular term. These exceptional reasons should be detailed in writing to the instructor, department head and dean, Documentation, such as a letter from a physician, may be required. A late withdrawal will not be given if the sole justification is the prevention of a failing grade.

UAF Grading Policies: (the following can be found on UAF website)

W: Withdrawn — Indicates withdrawal from a course after the first two weeks of a semester. This can be initiated by the student or faculty.
I: Incomplete — Indicates that you have not been able to complete the course during the scheduled time. An incomplete is a temporary grade used to indicate that the student has satisfactorily completed (C or better) the majority of work in a course but for personal reasons beyond the student's control, such as sickness, has not been able to complete the course during the regular semester. Normally, an incomplete is assigned in a case when the student is current in the class until at least the last three weeks of the semester or summer session. Negligence or indifference are not acceptable reasons for an “I” grade. Instructors include a statement of work required of the student to complete the course at the time the “I” grade is assigned and a copy of the notice of the incomplete grade will be sent to the dean of the school or college in which the course is given. An incomplete must be made up within one year or it will automatically be changed to an “F” grade. The “I” grade is not computed in the student's grade point average until it has been changed to a regular letter grade by the instructor or until one year has elapsed, at which time it will be computed as an “F.” A senior cannot graduate with an “I” grade in either a university or major course requirement. To determine a senior's grade point average at graduation, the “I” grade will be computed as a failing grade.
NB: No Basis — Instructors may award a No Basis (NB) grade if there insufficient student progress and/or attendance for evaluation to occur. No credit is given, nor is “NB” calculated in the GPA. This is a permanent grade and may not be used to substitute for the Incomplete (I). It can't be removed by later completing outstanding work.

Final Exams must be taken when scheduled. They CANNOT be taken at an earlier time. Final Exam will be during our regularly scheduled meeting time on the last day we meet.
**Important Dates:**

- **First day of instruction**: Tuesday 5/27/14
- **Deadline to add classes**: Thursday 5/29/14
- **Deadline for 100% refund**: Monday 6/2/14
- **Deadline for withdrawal (“W”)**: Wednesday 6/18/14
- **Last day of instruction/Final Exam**: Wednesday 7/2/14

**Schedule:** The following is a tentative schedule of topics that will be covered this semester. This is merely to serve as a guide and is subject to change without prior notice.

<table>
<thead>
<tr>
<th>Week of:</th>
<th>Chapter/Sections:</th>
<th>Topics:</th>
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<tbody>
<tr>
<td>May 27</td>
<td>1.1 – 1.11 (skip 1.9); 2.1-2.3</td>
<td>Fundamentals, Pre-requisite review, Lines, Functions</td>
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<tr>
<td>June 2</td>
<td>2.4-2.7; <strong>E1</strong>; 3.1-3.2</td>
<td>Average rate of change, Algebra of Functions, <strong>First Midterm Test</strong>, Polynomials</td>
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<tr>
<td>June 9</td>
<td>3.3-3.4, 3.7; 4.1-4.4</td>
<td>Polynomials, Rational functions; Exponential &amp; Logarithmic functions</td>
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<tr>
<td>June 16</td>
<td>4.5-4.6; <strong>E2</strong>; 12.1-12.4</td>
<td>Solving and Modeling Exponential and Logarithmic Equations; <strong>Second Midterm Test</strong>, Sequences, Mathematics of Finance (MoF)</td>
</tr>
<tr>
<td>June 23</td>
<td>MoF; 10.1-10.2, 10.8, 10.9</td>
<td>MoF-Annuities, Debts, Mortgages, Simple Compound Interest, Present/Future payments, Amortization; System of equations (linear and non-linear), Linear programming</td>
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<tr>
<td>June 30 – July 2</td>
<td><strong>E3</strong>; Review; <strong>FE</strong></td>
<td><strong>Third Midterm Test</strong>, Review for final, <strong>Final exam</strong> (cumulative)</td>
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