ISBN: 9780321772206

SOFTWARE: MyMathLab, CourseCompass interactive math software is required for participation in this online course. All homework, tests and final exam will be given within MyMathLab. MyMathLab also includes the online textbook. The student access kit may be purchased online at http://www.coursecompass.com. The course id is cheng-kvanli31186

CATALOG DESCRIPTION: Prerequisites: Two years of high school algebra and an appropriate assessment test score or Developmental Mathematics 0099 or Developmental Mathematics 0093. This course is a study of relations and functions including polynomial, rational, exponential, logarithmic, and special functions. Other topics include complex numbers, systems of equations and inequalities, theory of equations, progressions, the binomial theorem, matrices and determinants, proofs, and applications. (4 LEC) This course is the prerequisite for MATH 1316.

LEARNING OUTCOMES:
1. Find solution sets for polynomial, rational, exponential and logarithmic equations algebraically and graphically. (EEO #2, 4)
2. Solve polynomial inequalities. Write solutions in interval notation and graph solution sets.
3. Sketch the graphs of parabolas, absolute value, piecewise, rational, exponential, logarithmic and polynomial functions. (EEO #2, 4)
4. Write the equations of lines and parabolas which satisfy specific conditions.
5. Identify the geometric and algebraic properties of functions, including translations, combinations, domain, range, zeros, symmetry, and inverses. (EEO #3, 5)
6. Solve mathematical modeling applications involving polynomials, exponential and logarithmic functions. (CCIC #5, EEO #1, 4, 5, 6, 7)
7. Solve systems of equations using matrices. (EEO #4)
8. Use matrix operations such as addition, subtraction, and multiplication. (EEO #1, 4)
9. Evaluate 2 x 2 determinants of square matrices.
10. Graph linear inequalities and systems of linear inequalities. (EEO #2)
11. Find general terms and the summation of n terms for arithmetic and geometric sequences.
12. Use Pascal’s triangle to determine the binomial coefficients in the expansion of a binomial.
13. Use the graphing calculator to analyze graphs, to solve higher degree polynomials, systems of equations, and modeling problems. (CCIC #5, EEO #1, 4, 5, 6, 7)

MATH 1414 is a Tier I course in the Quantitative Reasoning learning category. Knowledge and skills that are important to your success in other college courses will be introduced and reinforced in Tier 1. The Quantitative Reasoning category promotes the application of mathematics to increase your ability to solve “real-world” problems. When you are quantitatively literate, you can use logic and critical thinking in new ways.
www.dcccd.edu/core

MATH 1414 will include the following Core Curriculum Intellectual Competencies:
#5. CRITICAL THINKING – think and analyze at a critical level (CCIC #5)

MATH 1414 will include the following Core Area Exemplary Educational Objectives:
#1. To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations. (EEO #1)
#2. To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically. (EEO #2)
#3. To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments. (EEO #3)
#4. To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results. *(EEO #4)*

#5. To interpret mathematical models such as formulas, graphs, tables and schematics, and draw inferences from them. *(EEO #5)*

#6. To recognize the limitations of mathematical and statistical models. *(EEO #6)*

#7. To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understanding its connections to other disciplines. *(EEO #7)*

**CHAPTERS/UNITS COVERED:**

Chapter 1: Graphs, Functions, and Models
Chapter 2: More on Functions
Chapter 3: Quadratic Functions and Equations
Chapter 4: Polynomial Functions and Rational Functions
Chapter 5: Exponential Functions and Logarithmic Functions
Chapter 6: Matrices
Chapter 8: Sequences and Series

**COURSE MATERIALS**

In this course, we will use an Interactive software program called MyMathLab that will be accessed via the Internet. You will use this program to complete all required homework, take practice tests, tests and final exam.

MyMathLab interactive website that will allow you to:
- Self-test to improve your math skills.
- Study more efficiently. Create personalized study plans with exercises that match your book.
- Get help when you need it. Includes multimedia learning aids like videos and animations.
- Talk to a live tutor via a toll free number.

**HARDWARE/SOFTWARE REQUIREMENTS FOR MY MATH LAB:**

- **Personal Computer** 233 MHz Pentium® Processor (or compatible)
- **Operating System:** Windows 98, ME, XP,Vista, NT 4.0
- **Web Browser:** Microsoft® Internet Explorer 4 or Netscape™ Navigator 4.75 or higher, 6.1 or higher. Please note AOL Users cannot access MyMathLab using the America Online® browser. However, you can log in to AOL® and then open a supported browser (for example, Internet Explorer) to access MyMathLab.
- **Internet Connection:** Cable/DSL, T1, or higher other high-speed (for multimedia content); 56K modem (minimum) for tutorials, homework, and testing.
- **Memory:** 64 MB RAM
- **Monitor resolution:** 1024 x 768 or higher
- **Plug-ins:** You need plug-ins and players, such as Adobe® Acrobat® Reader and RealPlayer®, to use the multimedia content inside your course.

If you experience technical problems while using MyMathLab, you may contact Technical Support at (800) 677-6337, Monday – Friday 6am – 7pm CDT and Sunday 3pm – 10pm.

For your convenience, visit Pearson 24/7 website for technical assistance, 24 hours a day, 7 days a week at [http://247xl.custhelp.com](http://247xl.custhelp.com).
**Getting Started**
All work for this course is done online using MyMathLab software via [www.coursecompass.com](http://www.coursecompass.com). You will view section video presentations, complete homework assignments, take tests and the final exam.

**CONTACTING YOUR INSTRUCTOR**
Please make sure that you have updated your email address in eConnect and MyMathLab. I will periodically send out group emails to the class and will use one of these systems. Your main communication with your instructor will be via email. To ensure that you receive a prompt response, **when emailing your instructor, please be sure to include your name somewhere in the body of the email, and write the course for which you are enrolled and the section number in the subject line of all email correspondences.** I should respond to your email within 24 hours Monday through Friday. Emails sent on Monday through Thursday after 8 pm will be answered the following day. Emails sent on Friday after 8 PM, Saturday or Sunday will be answered by Monday of the following week.

**ATTENDANCE/PARTICIPATION**
Attendance is an important part of your success. Although you will not receive a formal grade for attendance it will be very difficult to complete the course successfully without viewing the section videos. Viewing these videos is the equivalent to going to class. You should not try to complete the homework without viewing the videos first.

Students are expected to participate in class regularly, if you are unable to complete this course, you must withdraw from it by **June 27, 2012**. Withdrawing from a course is a formal procedure, which YOU must initiate. I cannot do it for you.

If you are enrolled in a Dallas TeleCollege section, you must go to the Dallas TeleCollege main web page to initiate this procedure (for students enrolled in a 9000 section). If you click on the pull down menu, you should see an option that says “drop a course.” You may withdraw via eConnect if you have the permission from your advisor.

If you are enrolled in Brookhaven College you must go to the advisor’s office at Brookhaven College to initiate this process. You may withdraw via eConnect if you have the permission from your advisor. If you stop participating and do not withdraw, you will receive a performance grade, usually an “F”.

It is DCCCD policy that before any student can enroll for a DMAT or Math class, they must have successfully completed the prerequisite course, or have received an appropriate score on the Accuplacer Math assessment Test. Students who obtain assess into any Developmental Math class MUST complete the remainder of the DMAT sequence with at least a grade of “C” in order to enroll into college-level Math courses.

Effective Fall Semester 2005, the Dallas County community Colleges will charge additional tuition to students registering the third or subsequent time for a course. All third and subsequent attempts of the majority of credit and Continuing Education/Workforce Training courses will result in additional tuition to be charged. Developmental Studies and some other courses will not be charged a higher tuition rate. Third attempts include courses taken at any of the Dallas County Community Colleges since the Fall 2002 Semester.

****IMPORTANT NOTE****
If you are receiving Financial Aid grants or loans and are enrolled in a Distance Learning class, you must show participation in this class prior to the certification date by officially registering at the Course Compass website ([www.coursecompass.com](http://www.coursecompass.com)). Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate after the drop date are also subject to this policy.

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**SIX DROP ISSUE SYLLABUS STATEMENT**
**STOP BEFORE YOU DROP**
For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop.
You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access: https://www1.dcccd.edu/6drop

**ANNOUNCEMENTS**
Announcements will be posted regularly by the instructor at least once a week. All students are responsible for checking announcements that will be posted on the Announcements page in the MyMathLab classroom at least twice a week. These announcements may contain review material, reminders, updates, and other important information that you will find necessary and useful for the course.

**GOING TO CLASS: VIEWING LESSONS AND COMPLETING ASSIGNMENTS**
The class will work in the following way:

1. **GO TO CLASS.** Under the Course Menu, click on the “Multimedia Library” tab. You will find a link to the lesson videos and the multimedia textbook.

   **STEP 1:** Read the appropriate section in the multimedia textbook. The multimedia textbook will have several icons available to you.
   **STEP 2:** You MUST watch the video lecture for that section.
   **STEP 3:** Do the assigned homework. There will be a link to the homework under the tab “Homework”. I highly recommend that you achieve a score of 70% or better on each homework assignment before you move on to the next assignment. Achieving this score will ensure that you have mastered enough of the material to understand and do well in the next section. **You must meet all the deadlines set in the course calendar for that section. Once a deadline has passed you will be shut out of that homework assignment and a grade of “0” assigned. There will be no extensions.** Under the Course Menu, the graphing calculator manual and tutorial will be on the left tab “Tools For Success.” Click on the title and also click on the link tools to access the manual and tutorial.
   **STEP 4:** Once you have completed all of the homework that the test will cover (see course calendar on the pages to follow) you should take a Sample Test. The SampleTests are designed to give you an idea as to how you will perform on the actual test. The score is not part of your performance grade.

2. **STUDY PLAN.** Once you take the Sample test, a study plan will automatically be generated. The Study Plan is located under the course menu as well.

3. **TAKE THE ONLINE TEST.** Please pay close attention to the deadlines that have been provided in your course calendar. You must be sure to take the exams on or before the deadline. You will select the current test that you will be taking. **You have 180 minutes to take your test in one attempt. You are not allowed to get in and out of your test while you are taking the test and you cannot save and return. Please don't try to access any homework or any other assignments as this may cause you be logged off and you will not be able to continue on your test. I do not allowed retakes on your test if you get logged off because of lost internet connections or any other technical problem. You can consider that test as the lowest test score that could be dropped. Do not click the submit button until you finish all the questions. You can review your submitted test anytime after the due date. No make-up tests or extension on deadlines will be given no matter what the situation is. A missed test is a zero grade and you will consider that missed test as the lowest test score that could be dropped.**

4. **TAKING THE ONLINE FINAL EXAM.** The final exam is a 40-questions comprehensive final exam and you have 240 minutes to take your final exam in one sitting.
HELP AND AVAILABLE RESOURCES:

- MyMathLab includes FREE access to the Pearson Tutor Center. Just call toll free (888)777-0463, Sunday to Thursday 4PM – 11PM. I hope each and every one of you take advantage of this free service.

- A link to the Student Solutions Manual to accompany the textbook is available on the left tab “The Textbook” under the course menu. The solutions manual contains worked-out solutions to the odd-numbered problems in your textbook. You may find this to be very helpful when completing the review exercises assigned from your textbook before going to take the tests.

- Brookhaven College has a Math Lab that offers free assistance and other resources to students enrolled in this course. The lab is equipped with computers with appropriate plug-ins and Internet access so that video lectures can be viewed and homework can be done in the lab. You should not depend on the lab entirely to complete work for this course and you should have your own personal computer with the appropriate Internet access. However, the Math Lab is available if you experience temporary technical problems with your personal computer, or you are on campus and would like to get some of your work done. The Lab is located in K137. You can also go to public library or use your friend’s computer. You should have an alternate action plan when your computer experiences technical problems (e.g., the internet connection is not working on a test date). You have to call or e-mail Pearson technical support immediately if you get logged out or experiencing any problem. You will get an incident ID # when you contact Pearson. Therefore, when you e-mail me about technical problem, I will need your incident ID #. If it is your internet provider’s technical problem, you will also have to contact your internet provider and obtain an incident ID #.

If you experience technical problems while using MyMathLab, you may contact Technical Support at 1-800-677-6337, Monday – Friday 6am – 7pm CDT and Sunday 3pm – 10pm. For your convenience, visit Pearson 24/7 website for technical assistance, 24 hours a day, 7 days a week at http://247xl.custhelp.com.

EVALUATION PROCEDURES:
Assessment of your performance will be based upon scores from homework assignments, tests and the final exam. The lowest test score will be dropped. Your final grade for Math 1414 will be based upon the following scale:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Tests</td>
<td>70%</td>
</tr>
<tr>
<td>Final Exam (Quiz Category)</td>
<td>20%</td>
</tr>
</tbody>
</table>

Averages are interpreted as follows:

- A: 90 – 100%
- B: 80 – 89.9%
- C: 70 – 79.9%
- D: 60 – 69.9%
- F: 0 – 59.9%

Go to the Course Menu, click on Gradebook, and click on show overall score to see your grades on all homework, tests and final exam.

Incomplete grades are given when an unforeseen emergency prevents a student from completing the work in a course. The division Dean must approve all “I” grades.

Grade reports are no longer mailed to students. You can log on to eConnect at www.econnect.dcccd.edu or you can call DCCCD Touch Tone Services at (972) 613-1818 for your letter grade.

Calculators are allowed in this course except TI-89, TI Nspire or TI-92 calculators.
AMERICANS WITH DISABILITIES ACT

For students enrolled in Dallas TeleCollege section:
Students requesting accommodation due to the presence of a disability must identify themselves in a timely fashion (usually the first class day) and demonstrate/document the need for accommodation through the Disability Services Office (DSO). In accordance with the “Americans with Disabilities Act” and Section 504 of the Rehabilitation Act of 1973, any student who feels that he or she may need special assistance or accommodation because of an impairment or disabling condition needs to contact the Disability Services Office at (972) 860-8348. It is the policy of the Dallas Telecollege to provide reasonable accommodations to contact the Disability Services Office.

The Dallas TeleCollege will provide reasonable accommodation for qualified individuals who are students with disabilities. Because of the legal implications, it is imperative that all students requesting academic accommodations first notify and provide appropriate documentation of their disabling condition to the Disability Services Office. Disability Services staff will evaluate this information and develop an individualized academic accommodation plan that will then be shared with the student’s instructors.

For students enrolled in Brookhaven College section:
The DSO offers a variety of support services for students with disabilities or special requirements. For information regarding the rights and responsibilities of students with disabilities, please contact the Brookhaven College Special Services Office, Building S, Room S124, phone (972) 860-4847 or e-mail: bhcSpecialServices@dcccd.edu. Also, information is available on their website at http://www.brookhavencollege.edu/studentsvcs/specialservices/ .

Academic Dishonesty
The Student Code of Conduct prohibits activities and prescribes penalties for academic dishonesty. Student’s found guilty of any form of academic dishonesty, including (but not limited to) cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion, may receive an “F” on the assignment and/or an “F” in their course(s) from the instructor and may be suspended from college by administrative action.
As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct published in the DCCCD Catalog. https://www1.dcccd.edu/cat0506/ss/code.cfm. Students’ rights to appeal grades and/or other disciplinary action and the procedures, which students must follow for appeals, are published in the College Catalog also under the student Code of Conduct.

Religious Holidays
Students who will be unable to work on this class for the observance of a religious holiday must notify the instructor in advance. Students should check the posted calendar and make necessary arrangements prior to any posted testing date. Students will be allowed to make up work examination or complete an assignment within a reasonable time before the due dates.
Math 1414 Course Calendar (Summer I 5 week)
The following is a timeline for the course. Although this is an online course, you are allowed to work somewhat at your own pace. The following is a course calendar has been created to help you finish the course. These deadlines must be followed very closely. **No extensions will be given.** All exams may be taken on or before the required date as long as the corresponding homework for the tests has been completed. Exams will not be accepted after the given deadline. **All homework, tests and final exam are due on the due date by 11:59 pm CDT. All tests and final exam are timed and must be completed once they are started. You cannot save and return and also you are not allowed to get in and out of the test.**

<table>
<thead>
<tr>
<th>WEEK</th>
<th>SECTIONS</th>
<th>DEADLINE</th>
</tr>
</thead>
</table>
| Week 1 6/6/12 | Lesson 1.1: Introduction to Graphing  
Omit: distance formula, midpoints, circles  
Lesson 1.2: Functions and Graphs  
Lesson 1.3: Linear Functions, Slope, and applications  
Lesson 1.4: Equations of Lines and Modeling  
Lesson 1.5: Linear Equations, Functions, Zeros, and Applications  
Lesson 2.1: Increasing, Decreasing, and Piecewise Functions; Applications  
Omit: increasing, decreasing, constant, greatest integer function | 1.1, 1.2, 1.3, 1.4, 1.5, 2.1 Homework due 6/10 |
| Week 2 6/11/12 | Lesson 2.2: The Algebra of Functions  
Lesson 2.3: The Composition of Functions  
Omit: decomposing a function as a composition  
Emphasize library of functions (pg. 194)  
Lesson 2.4: Symmetry and Transformations  
Omit: reciprocal function, vertical and horizontal stretching and shrinking  
Lesson 3.1: The Complex Numbers  
Lesson 3.2: Quadratic Equations, Functions, Zeros, and Models  
Include: projectile motion model; Omit: completing the square, discriminant, equations reducible to quadratic | 2.2, 2.3, 2.4 Homework due 6/17  
Take TEST #1 By 6/17  
Test #1 covers Chapter 1 & 2  
3.1, 3.2 Homework due 6/24 |
| Week 3 6/18/12 | Lesson 3.3: Analyzing Graphs of Quadratic Functions  
Lesson 3.4: Solving Rational Equations and Radical Equations  
Lesson 4.1: Polynomial Functions and Models  
Lesson 4.2: Graphing Polynomial Functions (omit: Intermediate Value Theorem)  
Lesson 4.3: Polynomial Division; The Remainder and Factor Theorems  
Lesson 4.4: Theorems about Zeros of Poly Functions omit: Integer Coefficients Rational Zeros Theorem, Descartes’ Rule of Signs  
Lesson 4.5: Rational Functions | 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5  
Homework due 6/24  
Take Test #2 by 6/24  
Test 2 covers Chapter 3 & Chapter 4 |
|---|---|
| Week 4 6/25/12 | Lesson 5.1: Inverse Functions  
Lesson 5.2: Exponential Functions and Graphs  
Lesson 5.3: Logarithmic Functions and Graphs  
Lesson 5.4: Properties of Logarithmic Functions  
Lesson 5.5: Solving Exponential and Logarithmic Equations  
Lesson 5.6: Applications and Models: Growth and Decay, Compound Interest  
Lesson 6.3: Matrices and Systems of Equations  
Lesson 6.4: Matrix Operations  
Lesson 6.6: Determinants and Cramer’s Rule  
Cover Determinants for 2x2 matrix only; omit Cramer’s Rule  
Lesson 6.7: Systems of Inequalities omit: Linear Programming | 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 6.3, 6.4, 6.6, 6.7  
Homework 7/1  
Take Test #3 by 7/1  
Test 3 covers Chapter 5 and Chapter 6 |
| Week 5 7/2/12 | Lesson 8.1: Sequences and Series  
Lesson 8.2: Arithmetic Sequences and Series  
Lesson 8.3: Geometric Sequences and Series  
Lesson 8.7: The Binomial Theorem | 8.1, 8.2, 8.3, 8.7  
Homework due 7/3  
Final Exam due 7/3 |

Please note that the instructor reserves the right to modify this course syllabus, assignments, grading procedures, and other related policies as circumstances dictate. Students will be notified via email of any changes that are to be made.