University of North Texas at Dallas
Fall 2012
SYLLABUS

MATH 1581D - 090: Survey of Mathematics with Applications and Algebra Review (3+1) Hrs

Department of	Mathematics and Information Sciences	Division of	Mathematics

Instructor Name:	Mehmet Celik
Office Location:	DAL2, Room #225
Office Phone:	972-338 1568
Email Address:	Mehmet.Celik@unt.edu

Office Hours:	
	Mon. 8:30am-9:30am & 11:30am-12:30pm; *Tues.* 11:30am- 12:30pm, 04:00pm-05:00pm,& 07:00pm-08:00pm; *Wed.* 11:30am-12:30pm *Thur.* 10:00am- 11:00pm, 04:00pm-05:00pm,& 07:00pm-08:00pm;

UNTD Mathematics Lab Hours:	*Here are the time intervals when I will be available for help in the Mathematics Lab.* *Mon.* 01:00pm-02:00pm; *Wed.* 01:00pm-02:00pm. *Thur.* 11:00am-12:00pm. *Mathematics Lab Location: (Bldg#1, 3rd floor)* *The Mathematics Lab hours are from 10am until 7pm Monday, Tuesday, Wednesday, & Thursday.*

Virtual Office Hours:	N/A

Lecture Location:	DAL 2, Room #303
Lecture Meeting Days & Times:	*Monday & Wednesday 10:00am-11:20am*

(Algebra Review) Lab Location	*DAL 1, Lab #201D*
Lab Meeting Day & Time	*Tuesday 10:00am-11:20am*

Course Catalog Description:	An alternate version of MATH 1580 for students identified in the mathematics placement process as requiring supplemental instruction to strengthen their algebra skills. Students may not enroll in this course if they have received credit for any other UNT mathematics course with a grade of C or better. Students may not receive credit for both MATH 1580 and MATH 1581. Survey of Mathematics with Applications and Algebra Review. 4 hours. (3;1) An alternate version of MATH1580 for students identified in the mathematics placement process as requiring supplemental instruction to strengthen their algebra skills. A grade of C or better is required for this course to serve as prerequisite. Survey of Mathematics with Applications: Topics include probability, statistics, algebra, logic and the mathematics of finance. Additional topics are selected from geometry, sets, cryptography, fair division, voting theory and graph theory. Emphasis is on applications. Recreational and historical aspects of selected topics are also included. Technology is used

	extensively. MATH 1580/81 is not intended to prepare students for calculus, science, engineering or business courses. Students may not receive credit for both MATH 1580 and MATH 1581. Satisfies the Mathematics requirement of the University Core Curriculum.
Prerequisites:	Consent of department. Satisfies the Mathematics requirement of the University Core Curriculum.
Co-requisites:	N/A
Required Main Text:	• **A Survey of Mathematics with Applications, Expanded 8th Edition, by Angel, Abbott and Runde.** • MyMathLab (MML) may be purchased packaged with textbook, as a stand-alone or directly online, at www.coursecompass.com. • MML is a required online course delivery platform where students access and complete assignments. **The MML course ID for this class is: celik71328** • If you have a used book you can also buy a standalone code for MyMathLab. The hardcopy of the book is optional, but you have to read it. The e-book is included within MML which is required. The bookstore packages the physical text with MML and sells MML by itself. Please discuss this with me if you have any questions.
Recommended Texts and/or References:	N\A
Required Assignment Services	My Math Lab is a homework assignment service, providing online versions of the homework problems found at the end of each chapter. **Registration Information to MyMathLab**: Students must purchase and register in **MyMathLab (MML)** by 2nd class of semester. MML is an online course delivery platform through which students access and complete assignments. Students may access MML at any general access lab on campus. **Students not registered with MML may be administratively dropped with the possibility of no refund. Students will NOT be given extensions for any missed assignments for any reason. Not having access to MML is not an exception.** **MyMathLab Course ID: celik71328** **ALEKS** (http://aleks.com) The Algebra Review section of this course will require the use of the ALEKS software. Instructions for logging in will be given in class and will be available on BlackBoard. Students must purchase **ALEKS** access code. **ALEKS** course code: **NMTTW-UEA3A**

Access to Learning Resources:	UNT Dallas Library:
	    phone: (972) 780-3625;
	    web: http://www.unt.edu/unt-dallas/library.htm
	
	UNT Dallas Bookstore:
	    phone: (972) 780-3652;
	    e-mail: 1012mgr@fheg.follett.com
	
	UNT Dallas **Mathematics Lab**:
	    DAL#1, 3rd floor
	    Mon. Tue. Wed. Th. 10 a.m.-5 p.m.

Course Objectives: The goal of this course is to introduce students to sets, logic, number theory, algebra, linear programming, probability and statistics.

Learning Course Objectives/Outcomes: At the end of this course, the student will

1	demonstrate an understanding of basic financial mathematics

		demonstrate an understanding of probability and statistics basics
2		demonstrate an understanding of probability and statistics basics
3		demonstrate an understanding of voting methods, apportionment methods, their theory and uses
4		demonstrate an understanding of basic logic
5		demonstrate an understanding of graph theory basics
6		use technology to solve problems and communicate mathematics
General Education Outcomes: At the end of this course, the student will		
1		Explore mathematics.
2		Make connections between different areas of knowledge and different ways of knowing.
3		Be able to locate, evaluate and organize information including the use of information technologies.
4		Think critically and creatively, learning to apply different systems of analysis.
5		Develop problem solving skills that incorporate multiple viewpoints and differing contexts in their analysis.
6		Cultivate intellectual curiosity and self-responsibility, building a foundation for life-long learning.

Course Outline

Major Course Topics:

Topics from

- probability, statistics, algebra, logic, the mathematics of finance, geometry, sets, cryptography, fair division, voting

  theory and graph theory.

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated by BlackBoard email and in-class announcements.

	Monday	**Tuesday**	**Wednesday**	**Topics**
Week #1			**Aug. 29** *Introduction*	Syllabus, MyMathLab, BlackBoard Algebra Review - ALEKS
Week #2	**Sept. 03** Labor Day (*university closed*)	**Sept. 04**	**Sept. 05**	**Voting and Apportionment** Voting Methods Flaws of Voting Methods Apportionment Methods
Week 3	**Sept. 10**	**Sept. 11** LAB	**Sept. 12** **Quiz 1**	Apportionment Methods Flaws of Apportionment Methods **Consumer Mathematics** Percent, Personal Loans and Simple Interest
Week 4	**Sept. 17**	**Sept. 18** LAB	**Sept. 19** **Quiz 2**	Compound Interest Ordinary Annuities, Sinking Funds and Retirement Investment, (FV) Present Value, Amortization and Buying a House with a Mortgage
Week 5	**Sept. 24**	**Sept. 25** LAB	**Sept. 26** **Quiz 3**	**Logic** Statements and Logical Connectives Truth Tables for Negation, Conjunction and Disjunction Truth Tables for the Conditional and Biconditional
Week 6	**Oct. 01**	**Oct. 02**	**Oct. 03**	Equivalent Statements

		LAB	Quiz 4	Symbolic Arguments Euler Diagrams and Syllogistic Arguments
Week 7	**Oct. 08**	**Oct. 09** **Exam #1 Review**	**Oct. 10** **EXAM #1**	Euler Diagrams and Syllogistic Arguments **Exam Review and Exam #1**
Week 8	**Oct. 15**	**Oct. 16** LAB	**Oct. 17** **Quiz 5**	**Statistics** Sampling Techniques, The Misuses of Statistics, Frequency Distributions. Statistical Graphs, Measures of Central Tendency
Week 9	**Oct. 22**	**Oct. 23** LAB	**Oct. 24** **Quiz 6**	Measures of Dispersion, The Normal Curve, Linear Correlation and Regression
Week 10	**Oct. 29**	**Oct. 30** LAB	**Oct. 31** **Quiz 7**	**Probability** The Nature of Probability, Theoretical Probability, Odds, Expected Value
Week 11	**Nov. 05**	**Nov. 06** LAB	**Nov. 07** **Quiz 8**	Tree Diagrams, Or and And Problems, Conditional Probability
Week 12	**Nov. 12**	**Nov. 13** LAB	**Nov. 14** **Quiz 9**	The Counting (Multiplication) Principle and Permutations; Addition Principle, Combinations, Solving Probability Problems by Using Combinations
Week 13	**Nov. 19**	**Nov. 20** LAB	**Nov. 21** **Quiz 10**	Solving Probability Problems by Using Combinations
Week 14	**Nov. 26**	**Nov. 27** **Review for Exam #2**	**Nov. 28** **EXAM #2**	**Graph Theory** Graphs, Paths and Circuits **Exam Review and Exam #1**
Week 15	**Dec. 03**	**Dec. 04**	**Dec. 05**	Euler Paths and Euler Circuits, Hamilton Paths and Hamilton Circuits, Trees
Dec 17- Dec 21	**Final Exam Wednesday, December 12, 2012 10:00 AM - 12:00 PM**			

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

- **Algebra Review Lab component (with ALEKS):** Math 1581 has a required Algebra Review component. This portion of the course will address the Algebra Review content (through **ALEKS** software) and will comprise 25% of your course grade. Carefully read the syllabus for the Algebra Review Lab component of the course to ensure you understand course's Lab expectations. You are responsible for meeting course expectations of both the lecture and the Algebra Review Lab on Tuesdays. Please, consult with the syllabus for the Algebra Review component of Math 1581D-090.
  Algebra Review Content on ALEKS: Real Numbers and Linear Equations, Systems of Linear Equations, Functions and (Logarithms), Graphs and Linear Equations, Exponents of Polynomials, Rational Expressions and Functions, Radicals and Quadratic Equations

- **Online Homework Assignments** (from MyMathLab) - There will be online homework assignments on MyMathLab. Each assignment will contain problems from sections covered in the course and they will be labeled with their section number.
  - You will have an unlimited number of attempts to complete an online homework assignment by the given due date.

- **Projects:** According to the General Education Assessments there will be two project assignments during the semester. Project questions will be assigned by the instructor. (Examples for both types of projects will be distributed in class.)
  - In the **first project**, students will explore mathematics by performing a research project on mathematics and its applications. For this project students will be graded on the quality of content, critical writing, and quality of references used.
  - In the **second project**, students will complete an assignment on locating, evaluating, and organizing information on an assigned topic using different resources such as a literature review, and the Internet. For this project students will be graded on quality of content, quality of references, and organization of the material.

- **In-class Quizzes** (in class) - An in-class quiz will be hold at the last 10 minutes of a class. The dates for each quiz are pointed on the schedule for the topics above. There will be no make-ups for any missed in-class quizzes. Instead, at the end of the semester only the best 7 in-class quizzes will be considered.

- **Mid-term Exams** (in class) - There will be three Mid-term Exams. Each one is by 70 minutes. The date for each exam is pointed in the schedule. See Make-up Policy section for more.
  - The department of Mathematics and Information Sciences at UNT Dallas creates a comprehensive final that all students of College Algebra take. Students must take the final exam at the prescribed time; no exceptions. Make necessary arrangements now to attend the final exam.

- **Final Exam** (in class) *Comprehensive Final Exam.* The schedule for the quizzes, tests and exams is attached. Absolutely NO MAKE –UPS!

Final Exam	Wednesday, December 12, 2012	10:00 AM	-	12:00 PM

Grading Matrix:

The student's grade is determined solely by his/her performance on the evaluation criteria and the grade assignments listed. *Do not expect Extra Credit assignments!*

Instrument	Value (points or percentages)	Total
Algebra Review – Lab with ALEKS	100	100
Online Homework Assignments - MyMathLab	average of the best 12 Online Homework Assignments	20
Weekly In-class Quizzes	average of the best 7 in-class quizzes	35
Projects	two projects at 10 points each	20
Mid-term Exams	2 Mid-term exams at 65 points each	130
Final Exam	One comprehensive final exam at 95 points	95
Total:		**400**

Grade Determination:
A = 400 – 360 pts; i.e. 90% or better
B = 320 – 359 pts; i.e. 80 – 89 %
C = 280 – 319 pts; i.e. 70 – 79 %
D = 240 – 279 pts; i.e. 60 – 69 %
F = 239 pts or below; i.e. less than 60%

Email Policy: Use your **Blackboard** email account to contact me. You should check your email account on the Blackboard every day. You are responsible for any information that I send out via email. Due to privacy rights, I will not discuss grades over the phone. I will only answer emails from your **Blackboard** account.

Calculator Policy: TI 83, TI 83 Plus, TI 84, TI 84 Plus or equivalent for the lecture, no calculator for **algebra review**. TI 89's, TI 92'2 or any other utility with alphanumeric/CAS capabilities are NOT permitted. A calculator may not be shared during an exam.

Formula sheet: Students are not allowed to use any type of formula sheet during any quizzes and exams.

University Policies and Procedures

Students with Disabilities (ADA Compliance):
The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Students' with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. Grades assigned before an accommodation is provided will not be changed as accommodations are not retroactive. For more information, you may visit the Student Life Office, Suite 200, Building 2 or call Laura Smith at 972-780-3632.

Student Evaluation of Teaching Effectiveness Policy:
The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Assignment Policy:

There will be no make-ups for any missed in-class quizzes. Instead, at the end of the semester only the highest seven in-class quizzes will be considered.

Exam Policy:

Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook). Specifically, in the case of injury or illness, you need to provide a note from a health care professional affirming date and time of a medical office visit regarding the injury or illness and stating that you should not be in class that day. You must notify me no later than the end of the second working day after the missed exam.

Academic Integrity:

Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Academic Integrity at http://www.unt.edu/unt-dallas/policies/Chapter%2007%20Student%20Affairs,%20Education,%20and%20Funding/7.002%20Code%20of%20Academic%20Integrity.pdf *for complete provisions of this code. In addition, all academic work submitted for this class, including exams, papers, and written assignments should include the following statement:* **On my honor, I have not given, nor received, nor witnessed any unauthorized assistance that violates the UNTD Academic Integrity Policy.**

Bad Weather Policy:

On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. *Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.*

Attendance and Participation Policy:

The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent.

- **Excessive absences**
    - **more than 6 classes**
  may result in being dropped from the course with a grade WF.

For security measures *once a student signs an attendance sheet she/he cannot leave the class without professor's permission.*
- *If a student needs to leave the class earlier she/he should talk to the professor before the class; the student should leave the classroom quietly.*
- *If a student has to leave the class (for example in case of a family emergency or a similar situation) the student must invite the professor politely out of the classroom to explain the situation.*

'Algebra Review - Lab' Attendance: (Lab Attendance is mandatory)

- According to the General Education Assessment Recommendations made in Spring 2012, in order to increase the college readiness, students are required to attend the Algebra Review – Lab every week to study on ALEKS and on Assignments from MyMathLab. 'Lab meeting dates' and 'place' are pointed on the schedule. **[The Mathematics Lab is on the 3rd floor of Building #1.]**

Diversity/Tolerance Policy:
Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Center for Student Rights and Responsibilities as the instructor deems appropriate.

Copyright Policy:
The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this course, which include but are not limited to syllabi, lecture notes, quizzes, exams, in-class materials, review sheets, projects, and problems sets. Because these materials are copyrighted, you do not have the right to copy and distribute the handouts, unless I expressly grant permission.

Other Policy:
Classroom Etiquette:
Appropriate behavior is expected of all students taking this course.
- *Arrive to class promptly and do not leave until the scheduled ending time of the class.*
- *If you must arrive late or leave early, please do so as discreetly as possible and take a seat near the door.*
- *Turn off all non-medical electronic devices such as pagers, cell phones, laptops, etc. Take off the headphones.*
- *Do not read newspaper or work on unrelated assignments during class.*
- *I prefer that you not eat during class.*

Grade Assignment:
The student course grade is assigned according to the evaluation criteria and grading assignment stated on this syllabus.
- *The grade is completely objective and is determined solely by student performance on each of the evaluation criteria (in-term exams, in-class quizzes, on-line quizzes, and the final exam).*
- ***Do not expect extra credit work or bonus grade assignments.***

Student Behavior:
Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT.
- *Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Student Life Center to consider whether the student's conduct violated the Code of Student Conduct.*
- *The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at http://dallas.unt.edu/sites/default/files/page_level2/pdf/policy/7.001%20Code%20of%20Student%20Rights%20Responsibilities%20and%20Conduct.pdf*