Contemporary Math (MATH 1332) Online

Credit: 3 semester credit hours (3 hours lecture)

Prerequisite/Co-requisite:
- A score of 350 or above on the TSI-Assessment placement test (effective Fall 2013) or a "C" or better in TMTH 0374.
- Online Orientation and answering "Yes" to seven or more questions on the Distance Education Self-Evaluation:
  http://www.lit.edu/depts/DistanceEd/OnlineOrientation/OOStep2.aspx

Course Description
Topics may include introductory treatment of sets, logic, number systems, number theory, relations, functions, probability, and statistics. Appropriate applications are included. *This course is time-bound, structured, and mostly online. All tests and the final exam are administered in a proctored environment (please refer to the proctoring policy located at the end of this syllabus)*

Student Identification Fees
This course requires all test and the final exam be administered in a proctored environment. The Lamar Institute of Technology testing center offers free proctoring services for LIT students. Other testing centers may require a fee for proctoring services.

Required Textbook and Materials
1. MyMathLab Standalone Access Code
   a. May be purchased online at **www.mymathlab.com**
   b. May be purchased at a local bookstore: **ISBN 032119991X**
2. A basic six-function calculator $(+, -, \div, x, \sqrt{}, \%)$ with a $\pm$ key

Course Objectives
Upon completion of this course, the student will be able to:
1. Define sets and apply symbols, terminology, and set operations to solve problems.
2. Define and apply logic symbols and terminology.
3. Understand the development of numeration systems and how to convert from one system to another.
4. Understand and apply the basic topics of number theory.
5. Apply the operations of real numbers to solve numerical and applied problems.
6. Given a relation, define its domain, range, and whether it is a function.
7. Solve simple and compound probability problems.
8. Define and apply mean, median, and mode to solve problems.

Core Objectives
1. Critical Thinking Skills: To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. Communication Skills: To include effective development, interpretation and expression of ideas through written, oral, and visual communication.

Approved: 03/14

3. Empirical and Quantitative Skills: To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Course Outline

A. The Basic Concepts of Set Theory
1. Symbols and Terminology
2. Venn Diagrams and Subsets
3. Set Operations and Cartesian Products
4. Surveys and Cardinal Numbers

B. Introduction to Logic
1. Statements and Quantifiers
2. Truth Tables and Equivalent Statements

C. Numeration Systems
1. Historical Numeration Systems
2. Arithmetic in the Hindu-Arabic System
3. Conversion between Number Bases

D. Number Theory
1. Prime and Composite Numbers
2. Greatest Common Factor of a Set of Numbers
3. Least Common Multiple of a Set of Numbers

E. Real Numbers and Their Representations
1. Real Numbers, Order, and Absolute Value
2. Operations, Properties, and Applications of Real Numbers
3. Rational Numbers and Decimal Representation
4. Irrational Numbers and Decimal Representation
5. Applications of Decimals and Percents

F. Functions and Systems of Equations
1. Functions and Applications
2. Systems of Equations
3. Applications of Systems

G. Probability
1. Basic Concepts
2. Events Involving "Not" and "Or"
3. Conditional Probability; Events Involving "And"

H. Statistics
1. Measures of Central Tendency

I. Additional Topics *(if time available)*

Grade Scale

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Course Evaluation

Final grades will be calculated according to the following criteria:

Tests	60%
Comprehensive Final Exam	10%
Course Assignments	30%

Course Requirements

1. Proctored tests and proctored final exam.
2. The student must purchase all required course materials.
3. The student will be expected to have access to the Internet and a computer.
4. The student will logon and access the course a minimum of four times per week.
5. Additional course requirements as defined by the individual course instructor.

Course Policies

MATH 1332 Online
Course Syllabus

1. Cheating of any kind will <u>not</u> be tolerated.
2. Students are responsible for initiating and completing the drop process. Students who stop participating and fail to drop the course will earn an "F" in the course.
3. Additional class policies as defined by the individual course instructor.

Technical Requirements
The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at: http://kb.blackboard.com/pages/viewpage.action?pageId=25368512. A functional broadband internet connection, such as DSL, cable, 3G, 4G, WiMAX, WiFi, satellite, or other broadband access is necessary to maximize the use of the online technology and resources

Disabilities Statement
The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Course Schedule
(***Tests and the assessment of core objectives activity will be assigned by each individual instructor***)

Week of	Topic	Reference
Week 1	Course introduction and policies; Math 1332 Pre-Test; Section 2.1: Sets, Symbols and Terminology Section 2.2: Subsets and Venn Diagrams	The Basic Concepts of Set Theory; MyMathLab
Week 2	Section 2.3: Set Operations and Cartesian Products Section 2.4: Problem-Solving with Venn Diagrams	The Basic Concepts of Set Theory; MyMathLab
Week 3	Section 3.1: Logic, Statements, and Quantifiers Section 3.2: Constructing Truth Tables	Introduction to Logic; MyMathLab
Week 4	Section 4.1: Historical Numeration Systems	Numeration Systems; MyMathLab
Week 5	Section 4.3: Arithmetic in the Hindu-Arabic System Section 4.4: Converting Between Number Bases	Numeration Systems; MyMathLab
Week 6	Section 5.1: Prime and Composite Numbers Section 5.4: Greatest Common Factor and Least Common Multiple	Number Theory; MyMathLab
Week 7	Section 6.1: The Real Number System, Order, and Absolute Value	The Real Numbers and Their Representations; MyMathLab
Week 8	Section 6.2: Real Number Operations, Properties, and Applications Section 6.3: Rational Numbers and Decimal	The Real Numbers and Their Representations; MyMathLab

MATH 1332 Online
Course Syllabus

Week of	Topic	Reference
Week 9	Section 6.4: Irrational Numbers and Decimal Representation Section 6.5: Decimals, Percents, and Applications	The Real Numbers and Their Representations; MyMathLab
Week 10	Section 8.4: Functions, Applications, and Models	Functions and Systems of Equations; MyMathLab
Week 11	Section 8.7: Systems of Equations Section 8.8: Applications of Systems Section 11.1: Basic Concepts of Probability	Functions and Systems of Equations; MyMathLab Probability; MyMathLab
Week 12	Section 11.2: Events Involving "Not" and "Or" Section 11.3: Conditional Probability and Events Involving "And"	Probability; MyMathLab
Week 13	Section 12.2: Measures of Central Tendency	Statistics; MyMathLab
Week 14	Additional Topics (*teacher discretion*)	
Week 15	Additional Topics (*teacher discretion*)	
Week 16	Additional Topics (*teacher discretion*)	
Final	****Given on the date and time specified by the instructor*	

Contact information varies by instructor.

Proctoring Policy
1. **Who is a Proctor?**
A proctor is an impartial monitor who administers a student's exam and ensures the security and integrity of the exam process.   If proctoring is required, it is the student's responsibility to make the appropriate arrangements, notify the instructor of the arrangements, and pay any incurred fees.

2. **Where may you have your test Proctored?**
Students may choose to have the exam proctored on the LIT campus or another acceptable proctored environment. LIT Proctoring services are *free* to LIT students. Other Proctoring services may require a fee paid for by the student.
   - *(1)   Acceptable Proctors / Sites*
      - Lamar Institute of Technology Testing Center
      - Testing Center which is a member of the National College Testing Association (NCTA). To locate a site: http://www.ncta-testing.org/cctc/
      - Testing Center at an accredited college
      - Superior officer of the military
   - *(2)   Unacceptable Proctors / Sites*
      - Family members or relatives of the student
      - Colleagues or co-workers
      - Friends or peers or acquaintances
      - Other students, whether from LIT or another campus

NOTE: The instructor reserves the right to deny any proctor, or to assign specific proctors as necessary.

3. **What Are the Proctor's Responsibilities?**
   - Each proctor must keep the exam in a secure area until the student takes the exam.
   - The proctor must ask the student for a photo ID if the proctor does not personally know the student.
   - Talking to other students is <u>not</u> allowed during administration of the exam.
   - Acceptable questions that may be asked by the student during the exam should be directed to the instructor. If the instructor cannot be contacted, the proctor should tell the student to (1) make a reasonable interpretation, (2) write this interpretation on the exam, and (3) continue working on the exam.
   - Once the student is finished with the exam, the proctor must collect the exam and sign and date a proctor certification form. This form is only necessary if testing is not done at the LIT testing center. This form will be available within the LMS classroom portal. The proctor must then return **both the exam and certification form** to the instructor through a delivery method previously specified by the instructor.
   - If the proctor is unable to administer the exam or cannot abide by the proctoring rules, the proctor must notify the instructor and the student.

4. **How to Schedule and Take the Exam?**
   - Students should schedule their exam with the proctor no later than **one week** prior to the exam.
   - Students must appear on time on the day and time scheduled for the exam.
   - Students must provide a valid student ID or government issued ID.
   - Students are responsible for providing all required supplies necessary for test taking as specified by the instructor.
   - Students must follow all of the testing center's requirements.
   - No cell phones, pagers, computers, PDAs, etc., are allowed in the testing area.
   - No food or drinks are allowed in the testing area.
   - No children may accompany students in the testing area.