

MATH 1010K Departmental Syllabus Transitional Mathematics for General Studies

Course Description: Transitional Mathematics for General Studies. Three credits; four classroom hours plus a required one-hour lab component each week. This is a special section of MATH 1010 with additional content addressing deficiencies that may hinder successful completion of the course. It is not a prerequisite to Math for General Studies (MATH 1010). It is an equivalent course and satisfies the General Education requirement and is part of the mathematics sequence for elementary school teachers. Topics covered include logic, sets, algebraic reasoning, probability, descriptive statistics, and consumer mathematics. Additional content includes polynomials, factoring, equations, inequalities, scientific notation, function notation, graphing, and algebra in problem solving.

Prerequisites: Two years of high school algebra and/or results of university assessments.

Pretest: A pretest is available to verify placement in this prescribed course. It has 40 questions, a 90 minute time limit, and a score of 28 or greater would indicate the student can change to a non-prescribed MATH 1010 course or a prescribed MATH 1710K course. No student can test out if repeating this course.

Instructor: Dr. David Otts (Dr. O)

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Fall 2019 Schedule

	August 26 - December 4	
Day:	Office hours:	Class hours:
Monday	8:00 a.m. - 11:15 a.m.; 2:20 - 4:20 p.m.	11:30 am - 2:15 p.m., KOM 123
Tuesday	1:00 - 2:00 p.m.	2:00 - 3:50 p.m., KOM 120
Wednesday	8:00 a.m. - 11:15 a.m.; 2:20 - 4:20 p.m.	11:30 a.m. - 2:15 p.m., KOM 123
Thursday	1:00 - 2:00 p.m.	2:00 - 3:50 p.m., KOM 120
Friday	8:00 a.m. - 11:15 a.m.;	11:30 a.m. - 2:15 p.m., KOM 123

Student Study Day: December 5 Final Examinations: December 6 – 12

Final Exam Times and Dates:

Math 1010-K09: Friday, December 6 at 10:00 am in KOM 123

Math 1010-K12: Friday, December 6 at 12:30 am in KOM 123

Math 1010-K25: Tuesday, December 10 at 3:30 pm in KOM 120

Text & Materials:

MyMathLab: an **access code** must be purchased so online homework may be completed at the web address: www.MyMathLab.com.

Text: (hard copy or e-book) *Mathematical Ideas*, Miller, Heeren, Hornsby, & Heeren, 14th Edition.

Calculator: A TI-83/83+ or TI-84/84+ graphing calculator is required for this course.

Math Lab: The University Studies Math Lab is located in KOM 124. It is equipped with computers and staffed with tutors to support students in prescribed courses. Students must use their MTSU ID to swipe in and out. Tutoring is also provided at the [Tutoring Spot](#) located in Walker Library. For more information, visit their website (at the web address <http://mtsu.edu/studentsuccess/tutoring.php>) or call 615-904-8014. You are encouraged to take advantage of this free service.

Purpose: The goal of this course is to expand students' understanding of mathematics beyond the entry-level requirements for college. Topics include problem solving, set theory, logic, counting methods, probability, statistics, and financial management. The student's mathematical skills are fostered in the areas of mathematical modeling with applications, problem solving, critical thinking skills, and the use of appropriate technologies.

Learning Outcomes: Upon completion of this course with a passing grade, the student will:

- Use inductive reasoning to generate hypotheses from identifiable mathematical patterns.
- Use logical operators in applications of deductive reasoning.
- Illustrate and prove set relationships using Venn diagrams.
- Carry out combined set operations and use the tools of set theory to solve problems involving surveys.
- Use concepts of logic and set theory to analyze logical arguments.
- Use counting techniques and determine the probability of, odds for, and odds against given events.
- Generate descriptive statistics, including measures of central tendency, measures of dispersion and measures of position, for given data sets.
- Develop and utilize formulas involving simple and compound interest.
- Solve problems involving truth in lending, amortization of loans, and financial investments.
- Apply processes of problem-solving (including the tool of algebra) in the various mathematical content areas of the course.
- Recognize connections between various mathematical content areas of the course; for example, set theory and probability (the sample space for an experiment is a set); probability and statistics (the area under the normal curve is a probability); mathematics of finance and algebra (the formula for future value of money under compound interest is the n th term of a geometric sequence); logic and set theory (logical arguments can be analyzed using Venn Diagrams).
- Use appropriate technology in related mathematical applications; for example, use a graphing calculator to conduct probability simulations and a spreadsheet to examine an amortization schedule.

General Education Mathematics Learning Outcomes:

Upon completion of this course, students will demonstrate the ability to:

- Use mathematics to solve problems and determine if the solutions are reasonable.

- Use mathematics to model real world behaviors and apply mathematical concepts to the solution of real-life problems.
- Make meaningful connections between mathematics and other disciplines.
- Use technology for mathematical reasoning and problem solving.
- Apply mathematical and/or basic statistical reasoning to analyze data and graphs.

Course Requirements:

In order to accomplish the learning outcomes of this course, the learner is required to:

- Attend class lectures
- Participate in class activities
- Read and study assignments
- Solve assigned problem sets
- Complete tests, quizzes, homework, etc.
- Complete a departmental comprehensive final exam

If you do not take the final exam, you cannot pass the course.

Course Topics:

This course consists of selected topics from Chapters 6, 7 & 8 as algebra enrichment sections plus Chapters 1, 2, 3, 10, 11, 12, and 13 in the required text, *Mathematical Ideas*, 13th Edition, including, but not restricted to, problem solving, set theory, logic, counting methods, probability, statistics, and financial management.

Sections to Be Covered:

Algebra Chapters: Sections

Chapter 6: 6.2 (Examples 5, 6; Problems 11-44), 6.4 (Example 3; Problems 49-54)

Chapter 7: 7.1 (Examples 1, 4; Problems 7-26, 39-46), 7.4, 7.5, 7.6 (Examples 1, 3, 6, 7, 9; Problems 5-24, 27-36, 59-68 & additional examples and problems with $a = 1$)

Chapter 8: 8.2 (Examples 1, 2, 3, 5, 7; Problems 1-5, 17-48, 67-76), 8.3 (Examples 3, 4, 7 (optional); Problems 5-20, 37-58), 8.4 (Examples 1 – 4; be sure to include problems using tables)

MATH 1010 Sections (recommended by the Math Department)

Chapter: Sections

1: 1, 2, 3, 4	10: 1, 2, 3, 5		
2: 1, 2, 3, 4	11: 1, 2, 3		
3: 1, 2, 3, 4	12: 1, 2	13: 1, 2, 4	

Course Evaluation and Grading: Students may earn up to 1000 points this semester from the following assessments:

Chapter Tests: 30 items, multiple choice; four @ 150 points for a total of 600 points

Group Presentation: 40 points

Vocabulary quizzes: 10 items, matching; 6 @ 10 points for a total of 60 points

MyLabMath (mml) online homework: 4 @ 25 points for a total of 100 points

Final exam: 200 points

Final Exam: The final examination is a Mathematics Department, multiple-choice, comprehensive examination given to all students enrolled in MATH 1010. It accounts for 20% of the final grade.

Students are required to have completed the final exam as per the scheduled date/time for their respective section (see below). The final exam is closed book and closed notes (except for allowed 8 ½" x 11" note sheet containing formulas only). Examination pamphlets and scratch paper are provided by the exam proctor. Unexcused absences for the final examination result in a course grade of F.

Note: Students are responsible for and required to bring the following materials to the final examination: (1) a large scantron, Form No. 4521, (2) a TI 83 or 84 Plus graphing calculator, (3) a #2 pencil, and (4) an 8 ½ x 11 note sheet containing formulas only.

Final Exam Time and Date:

Math 1010-K09: Friday, December 6 at 10:00 am in KOM 123

Math 1010-K12: Friday, December 6 at 12:30 am in KOM 123

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The other 80% of the final grade comes from homework, quizzes, projects (individual or group), and unit tests. The homework and projects should not exceed 20% of the grade.

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

There is NO plus/minus grading in Math 1010-K. A grade of I will be given only in accordance with University policy and approval of the chair of the University Studies Department in KOM 103A.

Student Conduct in class:

The instructor has primary responsibility for control over all classroom behavior and can direct the temporary removal or exclusion from the classroom of any student engaged in disruptive conduct or conduct which otherwise violates the general rules and regulations of MTSU. **A cell phone policy will be at the instructor's discretion.** More information can be found through the Office of Student Conduct (at the web address: <http://www.mtsu.edu/student-conduct/>).

Math tutoring in the University Studies Math Lab: University Studies provides FREE math tutoring for students enrolled in prescribed math courses. The University Studies Math Lab, located in KOM 124, has computers and a staff of tutors to support students in University Studies math courses: Math 1000KC, Math 1010K, Math 1530K, Math 1710K. Please be prepared when coming to the lab, bring your class notes, calculator, pencil, paper, and any material used in class. To use the math lab for tutoring REQUIRES an MTSU student ID. You MUST check-in and check-out of the math lab.

Fall 2019 Hours:

Monday – Thursday: 8:30 a.m. to 7:00 p.m.

Fridays: 8:30 a.m. to 2:00 p.m.

Tutoring via email available during the above times Monday – Friday

Saturday – Sunday: tutoring via email ONLY from 2:00 p.m. to 5:00 p.m.

Students can email math questions to the lab at usmathtutoring@mtsu.edu anytime. Tutors will send email responses during the designated times above.

Academic Integrity: Academic integrity is a hallmark of MTSU. We expect students to complete original academic exercises. Academic Integrity violations include plagiarism, cheating, fabrication, or

facilitating any such act. A complete description of this code can be found at the web address: www.mtsu.edu/provost/academic-integrity.php. All cases of violations will be reported to the Director of Student Academic Ethics, may result in failure on the test/assignment or for the course, and the student will receive an email stating: THIS IS AN OFFICIAL CORRESPONDENCE FROM THE DIRECTOR OF ACEDEMIC INTEGRITY AT MTSU.

Drop/Withdrawal Policy: Students may not drop or withdraw from this course unless they withdraw from all University courses or obtain special permission from the chair of the University Studies Department due to extenuating circumstances. (Go to KOM 103A for information.)

Attendance and Make-Up Policy:

Attendance is required at each class meeting. The instructor will keep a record of attendance for each student. [Note: Attendance and Make-up Policies will be at the instructor's discretion.] Participation in University sanctioned activities or in military duties and situations where the institution's policy on inclement weather is applicable are considered excused absences. However, non-attendance does not relieve a student of the responsibility for work covered or assigned. **An Attendance Report will be generated during the first two weeks of class and periodically thereafter. This could affect the student's financial aid and/or scholarships.**

Do you have a lottery scholarship? To retain Tennessee Education Lottery Scholarship eligibility, you must earn a cumulative TELS GPA of 2.75 after 24 and 48 attempted hours and a cumulative TELS GPA of 3.0 thereafter. A grade of C, D, F, FA, or I in this class may negatively impact TELS eligibility. If you drop this class, withdraw, or stop attending this class, you may lose eligibility for your lottery scholarship, and you may not be able to regain eligibility at a later time. For additional Lottery rules, please refer to your [Lottery Statement of Understanding](#) form (at the web address: <http://www.mtsu.edu/financial-aid/forms/LOTFEV.pdf>) or contact your [MT One Stop Enrollment Counselor](#) (at the web address: www.mtsu.edu/one-stop/counselor.php).

Reasonable Accommodation for Students with Disabilities:

MTSU is committed to campus access in accordance with Title II of the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act of 1973. Any student interested in reasonable accommodations can consult the [Disability & Access Center](#) (DAC) at their website www.mtsu.edu/dac and/or contact the DAC for assistance at 615-898-2783 or dacemail@mtsu.edu.

Title IX. MTSU faculty are concerned about the well-being and development of our students and are legally obligated to share reports of sexual assault, dating violence, domestic violence and stalking with the University's Title IX coordinator to help ensure student's safety and welfare. Please refer to [MTSU's Title IX](#) website (at the web address: <http://www.mtsu.edu/titleix/>).