Basic Math Skills
Austin Community College

Section  Spring 2013 / MATD-0330-019 / synonym 23426
Class meetings  TTh 7:05am-8:50am / NRG 3232

Instructor  Herb Ling
Office hours  MW 1:25 pm – 1:55 pm / NRG PB4
              TTh 9:00 am – 9:40 am / NRG PB4
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Grading  five in-class tests  15% each
          comprehensive in-class final exam  15%
          daily homework/quizzes  10%

Tests will be taken in class without a calculator. A missed test earns a score of zero (0). The final exam will be taken in class with the use of a basic four-function calculator. The final exam must be taken on the scheduled date. There will be no make-up tests or final exam.

Each class meeting you will earn a daily score of up to 10 points: Your attendance, completion of individual or group activities, previously assigned homework, and/or a written or oral quiz may all be considered in this score. No late work will be accepted, but your lowest daily score will be ignored.

Calendar

<table>
<thead>
<tr>
<th>week of</th>
<th>topics</th>
<th>related sections</th>
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<tbody>
<tr>
<td>Jan 15, 17</td>
<td>intro; whole-number arithmetic; perimeter, area</td>
<td>1.1-1.6, 1.9, 3.3</td>
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<tr>
<td>Jan 22, 24</td>
<td>fraction concept: visual, compare, equivalent</td>
<td>4.2, 4.3</td>
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<tr>
<td>Jan 29, 31</td>
<td>Test 1 (Tue, Jan 29); fractions, ratio, reciprocal</td>
<td>4.5, 5.1</td>
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<td>Feb 5, 7</td>
<td>proportion; basic operations with fractions</td>
<td>4.6, 5.1, 4.1, 5.2, 5.3</td>
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<tr>
<td>Feb 12, 14</td>
<td>complex fractions; applications; mixed numbers</td>
<td>5.5, 5.6, 5.4</td>
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<tr>
<td>Feb 19, 21</td>
<td>review; Test 2 (Thu, Feb 21)</td>
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<tr>
<td>Feb 26, 28</td>
<td>decimal arithmetic; percent concept</td>
<td>8.1-8.6</td>
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<tr>
<td>Mar 5, 7</td>
<td>units; angles; circles; area; volume; similarity</td>
<td>10.1, 10.3, 3.3, 10.5-10.7</td>
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<td>Mar 12, 14</td>
<td>SPRING BREAK</td>
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<tr>
<td>Mar 19, 21</td>
<td>basic percent calculation; percent problems</td>
<td>8.7, 8.9</td>
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<td>Mar 26, 28</td>
<td>review; Test 3 (Thu, Mar 28)</td>
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<tr>
<td>Apr 2, 4</td>
<td>understanding integers; integer arithmetic</td>
<td>2.1-2.5, 3.1-3.2, 5.7</td>
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<tr>
<td>Apr 9, 11</td>
<td>expressions, equations; translating to algebra</td>
<td>1.7-1.8, 2.6, 6.3, 7.1-7.5</td>
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<tr>
<td>Apr 16, 18</td>
<td>review; Test 4 (Thu, Apr 18)</td>
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<tr>
<td>Apr 23, 25</td>
<td>powers; polynomial arithmetic</td>
<td>3.4, 4.3, 4.4, 6.1, 6.2</td>
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<tr>
<td>Apr 30, May 2</td>
<td>mean, median, mode; Test 5 (Thu, May 2)</td>
<td>9.1, 9.2</td>
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<td>May 7, 9</td>
<td>review; final exam (Thu, May 9)</td>
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Class attendance and participation are important.

You will have opportunities to learn and practice skills during class. On days that you successfully demonstrate your learning in class through quizzes and/or activities, you will earn points. If you miss a class, you will not earn points for that day. It is, however, your responsibility to find out from classmates what material you missed and cover it outside of class. If you are absent for 4 or more TTh classes, your instructor is allowed to withdraw you from the course.

Please be considerate. Before class begins, turn off cell phones or other devices that may disturb the class. If you must leave during class, slip out quietly. Listen carefully when anyone else is speaking. Be patient. Support your classmates as they struggle to learn. This is a team effort.

You need time and strategies to be successful in learning.

Learning anything takes time. For this course, you should expect to spend at least 4 hours each week outside of class, reading, thinking about concepts, writing up problems, and reviewing. Many students will need 8-12 hours a week.

Study effectively. Work under conditions (light, sound, time of day, lack of distraction) that are best for you. Write neatly and organize your work. Look for patterns and try to find connections between ideas. Ask yourself questions, like "how does that make sense?" Every hour or so, take a five-minute break: get up, move around, drink a glass of water. Smile!

There are resources on campus to help you.

The Learning Lab (NRG 4119) provides free walk-in tutoring in many subjects, including math, reading, and writing. There is also a computer room with tutorial software for practice in basic skills. You can find detailed information about the learning labs on various campuses at http://www.austincc.edu/tutor/

The Library (NRG 1223) has books, videotapes, and audio tapes that can help you learn math and/or study more effectively. Most materials may be used in the library or checked out.

The Computer Center (NRG 1203) across the hall from the library has Internet access and productivity software for student use.

The Testing Center (NRG 3237) gives students flexibility in scheduling their tests and reduces the pressure of having to complete tests within a single class period. Testing Center policies can be found at http://www.austincc.edu/testctr/

Each ACC campus offers support services for students with documented physical or psychological disabilities. Students with disabilities must request reasonable accommodations through the Office of Students with Disabilities on the campus where they expect to take the majority of their classes. Students are encouraged to do this three weeks before the start of the semester.

Students who are requesting accommodation must provide the instructor with a letter of accommodation from the Office of Students with Disabilities (OSD) at the beginning of the semester. Accommodations can only be made after the instructor receives the letter of accommodation from OSD.

Other useful information may be found at http://www.austincc.edu/faculty/newsemester/, especially in the “Campus Based Student Support Overview” chart, and in the ACC student handbook at http://www.austincc.edu/handbook/
Consider your options.

If you want to change sections or withdraw from this course, please discuss it with your instructor first. He may have suggestions that can help you complete the course. The last day that a student may withdraw from this course is April 22 (Mon).

**TSI Warning**: If
(i) you are required to be in mandatory remediation in mathematics this semester, and
(ii) this is the only TSI-mandated course you are taking, and
(iii) you withdraw yourself or are withdrawn by your instructor from this course, then you will be automatically withdrawn from all of your college-credit courses.
*If you are unsure whether or not this warning applies to you, see an ACC advisor immediately.*

**In-Progress Grade**: A student who is regularly attending, doing all assigned work, but is still not earning a grade of C or higher, might be eligible for the IP (in progress) grade. Students who receive an IP grade are expected to register and pay for the course again in the following semester. A maximum of 2 IP grades can be awarded for any one course.

**Incomplete grades** (I) will be given only in very rare circumstances. Generally, to receive a grade of "I", a student must have taken all examinations, be passing, and after the last date to withdraw, have a personal tragedy occur which prevents course completion.

**Course Description**
MATD 0330 Basic Math Skills (3-4-0). A course designed to develop basic arithmetic and algebra skills to prepare for courses covering secondary school algebra, the first of which is MATD 0370. Content includes operations on whole numbers, integers, fractions, decimals, ratio and proportions, percent, solving linear equations in one variable applications, and relating simple algebra concepts to geometry. The same course is offered in a one hour (0130) and two hour (0230) format. (DVM 1103)

**Prerequisite**: none

**Instructional Methodology**
This course is taught in the classroom as a lecture/discussion course.

**Course Rationale**
The Basic Math Skills course is designed to be the first course in a 3-course sequence for Developmental Math. The other two courses are Elementary Algebra and Intermediate Algebra. Students who pass Basic Math Skills will have a solid foundation in arithmetic of rational numbers, solving linear equations, and the beginnings of polynomial arithmetic.

**Attendance/Class Participation**
Regular and punctual class and laboratory attendance is expected of all students. If attendance or compliance with other course policies is unsatisfactory, the instructor may withdraw students from the class.

**Withdrawal Policy**
It is the responsibility of each student to ensure that his or her name is removed from the roll should he or she decide to withdraw from the class. The instructor does, however, reserve the right to drop a student should he or she feel it is necessary. If a student decides to withdraw, he or she should also verify that the withdrawal is submitted before the Final Withdrawal Date. The student is also strongly encouraged to retain
their copy of the withdrawal form for their records. Students who enroll for the third or subsequent time in a
course taken since Fall, 2002, may be charged a higher tuition rate, for that course.
State law permits students to withdraw from no more than six courses during their entire undergraduate
career at Texas public colleges or universities. With certain exceptions, all course withdrawals automatically
count towards this limit. Details regarding this policy can be found in the ACC college catalog.

Incomplete
An instructor may award a grade of “I” (Incomplete) if a student was unable to complete all of the objectives
for the passing grade in a course. An incomplete grade cannot be carried beyond the established date in the
following semester. The completion date is determined by the instructor but may not be later than the final
deadline for withdrawal in the subsequent semester.

Statement on Scholastic Dishonesty
A student attending ACC assumes responsibility for conduct compatible with the mission of the college as an
educational institution. Students have the responsibility to submit coursework that is the result of their own
thought, research, or self-expression. Students must follow all instructions given by faculty or designated
college representatives when taking examinations, placement assessments, tests, quizzes, and evaluations.
Actions constituting scholastic dishonesty include, but are not limited to, plagiarism, cheating, fabrication,
collusion, and falsifying documents. Penalties for scholastic dishonesty will depend upon the nature of the
violation and may range from lowering a grade on one assignment to an “F” in the course and/or expulsion
from the college. See the Student Standards of Conduct and Disciplinary Process and other policies at
http://www.austincc.edu/current/needtoknow

Student Rights and Responsibilities
Students at the college have the rights accorded by the U.S. Constitution to freedom of speech, peaceful
assembly, petition, and association. These rights carry with them the responsibility to accord the same rights
to others in the college community and not to interfere with or disrupt the educational process. Opportunity
for students to examine and question pertinent data and assumptions of a given discipline, guided by the
evidence of scholarly research, is appropriate in a learning environment. This concept is accompanied by an
equally demanding concept of responsibility on the part of the student. As willing partners in learning,
students must comply with college rules and procedures.

Statement on Students with Disabilities
Each ACC campus offers support services for students with documented disabilities. Students with
disabilities who need classroom, academic or other accommodations must request them through the Office
for Students with Disabilities (OSD). Students are encouraged to request accommodations when they
register for courses or at least three weeks before the start of the semester, otherwise the provision of
accommodations may be delayed.

Students who have received approval for accommodations from OSD for this course must provide the
instructor with the ‘Notice of Approved Accommodations’ from OSD before accommodations will be
provided. Arrangements for academic accommodations can only be made after the instructor receives the
‘Notice of Approved Accommodations’ from the student.

Students with approved accommodations are encouraged to submit the ‘Notice of Approved
Accommodations’ to the instructor at the beginning of the semester because a reasonable amount of time may
be needed to prepare and arrange for the accommodations.

Additional information about the Office for Students with Disabilities is available at
http://www.austincc.edu/support/osd/
Safety Statement
Austin Community College is committed to providing a safe and healthy environment for study and work. You are expected to learn and comply with ACC environmental, health and safety procedures and agree to follow ACC safety policies. Additional information on these can be found at http://www.austincc.edu/ehs. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the Emergency Procedures poster and Campus Safety Plan map in each classroom. Additional information about emergency procedures and how to sign up for ACC Emergency Alerts to be notified in the event of a serious emergency can be found at http://www.austincc.edu/emergency/.

Please note, you are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be dismissed from the day’s activity, may be withdrawn from the class, and/or barred from attending future activities. You are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be immediately dismissed from the day’s activity, may be withdrawn from the class, and/or barred from attending future activities.

Use of ACC email
All College e-mail communication to students will be sent solely to the student’s ACCmail account, with the expectation that such communications will be read in a timely fashion. ACC will send important information and will notify you of any college related emergencies using this account. Students should only expect to receive email communication from their instructor using this account. Likewise, students should use their ACCmail account when communicating with instructors and staff. Instructions for activating an ACCmail account can be found at http://www.austincc.edu/accmail/index.php.

Student And Instructional Services
ACC strives to provide exemplary support to its students and offers a broad variety of opportunities and services. Information on these services and support systems is available at: http://www.austincc.edu/s4/ Links to many student services and other information can be found at: http://www.austincc.edu/current/ ACC Learning Labs provide free tutoring services to all ACC students currently enrolled in the course to be tutored. The tutor schedule for each Learning Lab may be found at: http://www.austincc.edu/tutor/students/tutoring.php For help setting up your ACCEID, ACC Gmail, or ACC Blackboard, see a Learning Lab Technician at any ACC Learning Lab.

Common Course Objectives
Overall objectives:
1. Students will feel a sense of accomplishment in their increasing ability to use mathematics to solve problems of interest to them or useful in their chosen fields. Students will attain more positive attitudes based on increasing confidence in their abilities to learn mathematics.
2. Students will learn to understand material using standard mathematical terminology and notation when presented either verbally or in writing.
3. Students will improve their skills in describing what they are doing as they solve problems using standard mathematical terminology and notation.

Specific objectives:
1. Concepts and skills associated with whole numbers
   1. write the standard form of a whole number
   2. round whole numbers and use rounding to estimate values involving whole number arithmetic
   3. perform the four basic arithmetic operations (addition, subtraction, multiplication and division) on whole numbers
   4. solve application problems involving the four basic operations on whole numbers
5. identify the order relation between two whole numbers
6. simplify exponential expressions with whole number exponents
7. use the order of operations to simplify expressions involving whole numbers, whole number exponents, grouping symbols, and the four basic arithmetic operations
8. prime factor whole numbers
9. find the least common multiple of two or more whole numbers

2. Concepts and skills associated with fractions
1. perform the four basic arithmetic operations on fractions
2. solve application problems involving the four basic operations on fractions
3. simplify fractions to lowest terms
4. convert between mixed numbers and improper fractions
5. use the order of operations to simplify expressions involving fractions, whole number exponents, grouping symbols, and the four basic arithmetic operations
6. identify the order relation between two fractions

3. Concepts and skills associated with decimals
1. write the standard form of a decimal
2. round decimals and use rounding to estimate values involving decimal arithmetic
3. perform the four basic arithmetic operations on decimals
4. solve application problems involving the four basic operations on decimals
5. convert between fractions and decimals
6. use the order of operations to simplify expressions involving decimals, whole number exponents, grouping symbols, and the four basic arithmetic operations
7. identify the order relation between two decimals or between a decimal and a fraction

4. Concepts and skills associated with integers and rational numbers
1. perform the four basic arithmetic operations on rational numbers
2. use the order of operations to simplify expressions involving rational numbers, whole number exponents, grouping symbols, and the four basic arithmetic operations
3. solve application problems involving the four basic operations on rational numbers
4. identify the order relation between two rational numbers

5. Concepts and skills associated with ratios, proportions and percents
1. convert between fractions and percents and between decimals and percents
2. solve percent equations
3. find the missing number in a proportion
4. solve ratio and proportion application problems
5. solve application problems involving percents

6. Concepts and skills involving linear equations in one variable
1. solve linear equations in one variable involving integers, decimals and fractions
2. solve application problems that yield linear equations

7. Concepts and skills associated with polynomials
1. identify terms of a polynomial, and classify polynomials by number of terms
2. use the exponent laws to simplify algebraic expressions involving whole number exponents
3. use the order of operations to evaluate variable expressions and formulas
4. combine like terms
5. add and subtract polynomials
6. multiply monomials by polynomials

8. Use statistics to collect and interpret data
1. determine the mean, median, and mode
2. interpret graphs (pictographs, circle graphs, bar graphs and line graphs) and analyze data

9. Concepts and skills associated with geometry
1. know the appropriate vocabulary and facts about angles, triangles, rectangles, squares, and circles
2. find perimeters of rectilinear figures
3. use standard formulas to find perimeters and areas of triangles, rectangles, squares and circles
4. find complementary and supplementary angles
5. find angles associated with parallel lines cut by a transversal