

MT 085 Basic Algebra
DONNELLY COLLEGE
[Enter Semester Year]
[Enter Days, Times]
[Enter Room]
4 credit hours

INSTRUCTOR INFORMATION:

Name:
Office:
Office hours:
Telephone:
E-mail address:
Web site address:

COURSE DESCRIPTION:

This is a beginning course in algebra, designed to help students acquire a solid foundation in the basic skills of algebra. Topics include fundamentals of algebra, solutions of linear equations and inequalities, solving application problems, graphs of linear equations, systems of equations, operations with polynomials, factoring, rational expressions, radicals, and solving quadratic equations. (This is a preparatory course and cannot be used to fulfill graduation requirements.)

PREREQUISITES:

C or better in MT 080 Arithmetic or appropriate placement score, or permission of the mathematics instructor

REQUIRED TEXTBOOK & SUPPLIES:

- Introductory Algebra: Concepts with Applications, 2013, by McKeague
- Calculators (cell phone calculators are not allowed)

PHILOSOPHY OF GENERAL EDUCATION:

Donnelly College has consistently maintained a strong commitment to the liberal arts and sciences as a foundation for a complete education. The faculty strongly believes that the liberal arts and sciences provide the context through which students can engage with the larger questions about students' place in the world and their pursuit of truth. Therefore, the College's general education requirements are designed to ensure that liberal arts and sciences graduates develop a breadth of content knowledge and the skills and abilities which will enable them to become educated participants in a diverse global community.

DONNELLY COLLEGE LEARNING OUTCOMES:

1. **Communication Skills:** Students will communicate effectively in writing and speaking.
2. **Technology and Information Literacy Skills:** Students will demonstrate proficiency in information literacy skills.
3. **Symbolic Problem Solving:** Students will demonstrate competency in qualitative and quantitative problem solving.
4. **Analytical Thinking:** Students will employ reflective thinking to evaluate diverse ideas in the search for truth.
5. **Personal and Interpersonal Skills:** Students will develop an understanding across cultural differences locally, nationally, and internationally.
6. **Academic Inquiry:** Students will engage independently and effectively in lifelong learning.
7. **Values:** Students will demonstrate moral and ethical behavior in keeping with our Catholic identity.

LIBERAL ARTS AND SCIENCES PROGRAM LEARNING OUTCOMES:

In addition to the general education learning outcomes – communication skills, technology and information literacy skills, symbolic problem solving, analytical thinking, personal and interpersonal skills, academic inquiry, and values – upon successful completion of the Associate of Arts in Liberal Arts degree, the graduate should be able to demonstrate:

1. Proficiency and creativity in written and verbal communication.
2. Effective use of current technology in support of academic work.
3. Proficient use of qualitative and quantitative methods in problem solving.
4. Critical and Analytic thinking across a range of disciplines.
5. A commitment to ethics and integrity in academic and professional relationships, within the community and the environment.
- 6a. The ability to conduct research using sources, strategies, and approaches across disciplines. (AA)
- 6b. Use of the scientific method. (AS)

MT 085 BASIC ALGEBRA STUDENT LEARNING OUTCOMES:

Upon completion of MT 085 the student will have the ability to:

1. Simplify and/or evaluate expressions.
2. Solve equations and inequalities.
3. Solve application problems.
4. Graph linear equations.
5. Factor algebraic expressions.

Donnelly College Learning Outcomes	Program Learning Outcomes¹	Student Learning Outcomes²	Application and Assessment³
Students will communicate effectively in writing and speaking.	1. Students will demonstrate proficiency and creativity in written and verbal communication.	3. Students will have the ability to solve application problems.	3. Class average grade of 70% or more on problems 22 – 25 on the Final Exam.
Students will demonstrate proficiency in information literacy skills.	2. Students will demonstrate effective use of current technology in support of academic work.		
Students will demonstrate competency in qualitative and quantitative problem solving.	3. Students will demonstrate proficient use of qualitative and quantitative methods in problem solving.	<p>1. Students will have the ability to simplify and/or evaluate expressions.</p> <p>2. Students will have the ability to solve equations and inequalities.</p> <p>4. Students will have the ability to graph linear equations.</p> <p>5. Students will have the ability to factor algebraic expressions.</p>	<p>1. Class average grade of 70% or more on problems 1 – 7 and 10 – 12 on the Final Exam.</p> <p>2. Class average grade of 70% or more on problems 13 and 17 – 21 on the Final Exam.</p> <p>4. Class average grade of 70% or more on problems 14 – 16 on the Final Exam.</p> <p>5. Class average grade of 70% or more on problems 8 – 11 on the Final Exam.</p>
Students will employ reflective thinking to evaluate diverse ideas in the search for truth.	4. Students will demonstrate critical and analytic thinking across a range of disciplines.		

Students will develop an understanding across cultural differences locally, nationally, and internationally.	5. Students will demonstrate a commitment to ethics and integrity in academic and professional relationships, within the community and the environment.		
Students will engage independently and effectively in lifelong learning.	6b. Use of the scientific method.		
Students will demonstrate moral and ethical behavior in keeping with our Catholic identity.			

COURSE REQUIREMENTS:

Homework: Each instructor has their own homework assignments.

ACE (Academic Center for Excellence) is located in Room 205. They provide tutoring at no cost. In addition to individual tutoring, a Supplemental Instruction (SI) is available offering course specific group help. Contact ACE for more details.

Extra Credit: Each instructor has their own extra credit towards the test or homework policy. Some may use homework, some may use Review Sheets, and some may use no use of a calculator. Extra credit is not to exceed 5% of the final grade.

Tests: Tests will be given as is indicated in the class schedule. You may use one-half sheet of notes when testing. The notes must be turned in with the test.

Final Exam: There is a comprehensive final exam. No notes are allowed. You may use calculators.

Make-up Tests: You may make up one test. In order to be allowed to make up a test you must call or e-mail me BEFORE the start of the test. You must have a valid reason and give it at this time ("I'm not ready" is NOT a valid reason.) If you do not provide prior notice, you must provide documentation (doctor's note, etc.) as to why you could not take the test. Unless there are extenuating circumstances, all tests must be made up within one week of the scheduled test time. It is up to the student to schedule the test. A make-up test can only be scheduled once.

Retests: There are no retests.

GRADING POLICY:

Grades are awarded on the basis of the following scale:

Homework	100 pts
Tests	700 pts
Final Exam	<u>100 pts</u>
Total	900 pts

A	810 – 900 pts
B	720 – 809 pts
C	630 – 719 pts
D	540 – 629 pts
F	0 – 539 pts

The following rubric will be used to evaluate problems on the Final Exam.

0 pts	1 pt	2 pts	3 pts	4 pts
Answer is not correct and no work is shown or work shown is not labeled or not readable OR answer is correct but the directions were not followed	Work is shown (as appropriate), work is neat and readable, answer is not correct but work shown indicates the student had some idea of what was to be done	Work is shown (as appropriate), work is neat and readable, answer is not correct but work shown indicates minimal computational error(s)	Work is shown (as appropriate), work is neat and readable, answer is correct but has not been simplified as much as possible or answer differs by the sign	Work is shown (as appropriate), work is neat and readable, answer is correct and has been simplified as much as possible

CALCULATOR POLICY: Students wishing to use a calculator must provide their own. Cell phones with calculator capabilities may NOT be used on tests. Calculators may NOT be shared on tests.

CELL PHONE POLICY: Cell phones should be turned off (or placed on vibrate) and should be kept in your book bag or on the floor (not on the desk or in your lap) during class.

ACADEMIC INTEGRITY: "...Academic integrity is to be maintained at all times to insure genuine educational growth. Cheating and plagiarism in all forms, therefore, will be subject to disciplinary action. Serious infractions will be reviewed by an ad hoc committee, appointed by the appropriate dean. Appropriate sanctions will be imposed."

PLAGIARISM: Plagiarism – the appropriation or imitation of the language or ideas of another person and presenting them as one's original work – sometimes occurs through carelessness or ignorance. Students who are uncertain about proper documentation of sources should consult their instructors.

ACCOMMODATIONS: In compliance with the Americans with Disabilities Act, Donnelly College will make every attempt to provide equal access for persons with disabilities.

Students in need of accommodations must request them in writing from the Vice President of Academic Affairs.

CIVILITY & DECORUM: As noted in its Code of Conduct, Donnelly College is committed to maintaining an overall atmosphere of civility and respect. Civility and decorum both inside and outside the classroom are fundamental foundations of the values at Donnelly College. Classroom discussions and interactions outside the classroom will at all times be focused on the learning process and should always be respectful of both students and faculty. In open discussions of ideas and issues, disagreements should focus on ideas and facts. Name calling and assaults (either in person or on-line) will not be tolerated. Should any problems occur, the instructor should be notified immediately. Those who do not comply with civility and decorum requirements may be subject to a grade reduction and/or other sanctions up to and including dismissal from Donnelly College.

ATTENDANCE POLICY: Class attendance is encouraged. Any student who misses eight or more class sessions may be withdrawn from the class at the discretion of the instructor.

WITHDRAWAL FROM COURSES OR FROM SCHOOL: It is the responsibility of the student to withdraw from class. If a student decides to withdraw from a class, ideally, they should see an advisor and the financial aid staff before taking the withdrawal form to the Registrar's office for processing. However, any verifiable contact (e-mail, fax, phone, mail, etc.) with authorized college personnel expressing the student's intent to withdraw from a class will be honored.

If students withdraw before they have earned their financial aid, they will owe Donnelly College a debt for the unearned portion of the financial aid as well as for any unpaid balances (subject to the College's refund policy). Not attending class is not a withdrawal from class.

Donnelly College reserves the right to withdraw a student from class(es) if the student does not meet their financial obligations, including two missing or incomplete payments, or loss of financial aid. Faculty may initiate an administrative withdrawal on the basis of non-attendance. In extreme circumstances (i.e. a disciplinary problem), the Vice President of Academic Affairs may initiate an administrative withdrawal. The student remains responsible for the tuition owed in this instance.

The deadlines for withdrawing from classes are as follows:

14 to 16 weeks	3 weeks before the end of the class
6 to 8 weeks	7 weekdays before the end of class
4 to 5 weeks	4 weekdays before the end of class
Less than 4 weeks	Withdrawals are not allowed

Withdrawal deadline dates will be published in the academic calendar.

TENTATIVE COURSE CALENDAR:

The schedule is subject to change based on the progress or needs of the class.
Each instructor adjusts the schedule based on the time of the class (day, night, summer),
holidays, snow days, surveys, conferences, sick days, etc.

Week	Day	Section	Problems Covered	Homework
1	1	Diagnostic Test		
	2	Syllabus Overview of Course Handout – Order of Operations		
	3	1.1 Real Numbers 1.2 Addition and Subtraction of Real Numbers 1.3 Multiplication of Real Numbers	1 – 85 1 – 99 1 – 82	
	4	1.4 Division of Real Numbers 1.5 Properties of Real Numbers Handout - Sets of Numbers	1 – 100 1 – 118	
2	1	1.6 Simplifying Expressions	1 – 102	
	2	Review		
	3	Test Chapter 1		
	4	2.1 Addition Property of Equality 2.2 Multiplication Property of Equality	1 – 82 1 – 86	

Week	Day	Section	Problems Covered	Homework
3	1	2.3 Solving Linear Equations in One Variable	1 - 82	
	2	2.4 Formulas	1 – 86	
	3	2.5 Applications: Number, Age, Perimeter, Coin Problems	1 – 44	
	4	2.6 Applications: Integer, Interest, Triangle, Miscellaneous Problems	1 – 54	
4	1	2.7 Linear Inequalities in One Variable	1 – 74	
	2	Review		
	3	Test Chapter 2		
	4	3.1 The Rectangle Coordinate System 3.2 Solutions and Graphs of Linear Equations	1 – 54 1 – 84	
5	1	3.3 Graphing Linear Equations Using Intercepts	1 – 50	
	2	3.4 Graphing Linear Equations Using Slope	1 – 46	
	3	3.5 Finding the Equation of a Line	1 – 56	
	4	3.6 Graphing Linear Inequalities in Two Variables	1 – 28	
6	1	7.1 Solving Linear Systems by Graphing	1 – 34	
	2	7.2 The Substitution Method	1 – 42	
	3	Review		
	4	Test Chapters 3 & 7		

Week	Day	Section	Problems Covered	Homework
7	1	4.1 Multiplication with Exponents and Scientific Notation	1 – 20, 23 – 70	
	2	4.2 Division with Exponents and Negative Exponents	1 – 86	
	3	4.3 Operations with Monomials 4.4 Addition and Subtraction of Polynomials	1 – 34, 55 – 86 1 – 42	
	4	4.5 Multiplication of Polynomials	1 – 67	
8	1	4.6 Special Products	1 – 56	
	2	4.7 Dividing a Polynomial by a Monomial	1 – 58	
	3	Review		
	4	Test Chapter 4		
9	1	5.1 The Greatest Common Factor and Factoring by Grouping	1 – 66	
	2	5.2 Factoring Trinomials of the Form $x^2 + bx + c$	1 – 80	
	3	5.3 Factoring Trinomials of the Form $ax^2 + bx + c$	1 – 56	
	4	5.4 The Difference of Two Squares and Perfect Square Trinomials	1 – 64	
10	1	5.6 Factoring: A General Review	1 – 66	
	2	5.7 Solving Quadratic Equations by Factoring	1 – 88	
	3	5.8 Applications of Quadratic Equations	1 – 34	
	4	Review		

Week	Day	Section	Problems Covered	Homework
11	1	Test Chapter 5		
	2	6.1 Simplifying Rational Expressions	1 – 38, 45 – 54	
	3	6.2 Multiplication and Division of Rational Expressions	1 – 50	
	4	6.3 Addition and Subtraction of Rational Expressions	1 – 48	
12	1	6.7 Proportions	1 – 24	
	2	Review		
	3	Test Chapter 6		
	4	8.1 Radical Expressions	1 – 60	
13	1	8.2 Simplifying Radicals	1 – 58	
	2	8.3 Addition and Subtraction of Radicals	1 – 36	
	3	8.4 Multiplication and Division of Radicals	1 – 76	
	4	9.1 Factoring and the Square Root Property	1 – 42	
14	1	9.3 The Quadratic Formula	1 – 28	
	2	Review		
	3	Test Chapters 8 & 9		
	4	Review		
15	1	Review		
	2	Review		
	3	Review		
	4	Review		
16		Final Exam		