Effective: Late Fall 8-Week, 2019/2020

# MATH 150: College Algebra

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| **Location:** | Evening |
| **Address:** | 1001 Rogers Street Columbia, MO 65216 |
| **Section:** | 19FALL2/MATH/150/AEV |
| **Semester Credit Hours:** | 3 |
| **Class Day(s) and Time(s):** | Wednesday 5:30 PM - 9:30 PM from October 21, 2019 to December 14, 2019 |

## Syllabus Contents



## Course Information

### Catalog Description

Fundamental algebraic concepts are examined in the context of real world applications. Linear, quadratic, polynomial, exponential, and logarithmic functions are explored with emphasis on their numerical, graphical, and algebraic properties.

**Prerequisite:** Grade of C or higher in MATH 106 or a score of 21 or above on the math portion of the ACT (or if the ACT was taken before September 1989, a score of 20) or 500 or above SAT score, or a passing score on the Columbia College math placement exam. G.E.

### Additional Notes

Thanksgiving Holiday: Due to Thanksgiving, class will not meet on Wednesday, November 27. The make-up day will be the week prior, Friday, November 22.

## Textbooks

As part of Truition[SM], students will receive their course materials automatically as described below.

Ronald J. Harshbarger. (2017). *College Algebra in Context with Access to MyLabsPlus* (5th). Pearson. *eText*

*Students must have access to a TI-83 or TI-84 graphing calculator for this course.*.

### Bookstore Information

Visit https://www.ccis.edu/bookstore.aspx for details.

eText Information

If a course uses an eText, (see textbook information above) the book will be available directly in Desire2Learn (D2L) seven days before the session begins, if registered for courses prior to that date. Upon first login to VitalSource, students should use their CougarMail email address; alternate email addresses cannot be used. More information about how to use the VitalSource platform, including offline access to eTexts, can be found in D2L.

Physical Course Materials Information

Students enrolled in courses that require physical materials will receive these materials automatically at the shipping address on file with Columbia College. Delivery date of physical materials is dependent on registration date and shipping location. Please refer to confirmation emails sent from Columbia College for more details on shipping status.

**Returns:** Students who drop a class are responsible for returning any physical course materials that were shipped. To initiate a return, visit Ingram Returns to generate a pre-paid return label. Materials from dropped courses must be returned within 30-days of receipt. **Failure to return physical items from a dropped course will result in a charge to the student account for all unreturned items.**

**Note:** Students who opt-out of having their books provided as part of Tuition[SM] are responsible for purchasing their own course materials.

## Technology Requirements

**THIS IS A TECHNOLOGY-ENRICHED COURSE WHICH COMBINES IN-SEAT INSTRUCTION WITH ONLINE LEARNING.**

Participation in this course will require the basic technology for all classes at Columbia College:

- A computer with reliable internet access
- A web browser
- Acrobat Reader
- Microsoft Office or another word processor such as Open Office

For more information, see technical requirements.

## Course Learning Outcomes

1. Work with functions defined numerically, symbolically, graphically, or verbally.
2. Analyze characteristics of functions, such as end behavior, intercepts, and extreme values, from its rule, graph, or table of values.
3. Compute the inverse of a function, when one exists, and demonstrate the meaning of the inverse graphically and algebraically.
4. Solve real world problems using linear, quadratic, polynomial, rational, exponential, and logarithmic models and interpret the solutions.
5. Solve linear, quadratic, polynomial, rational, exponential, and logarithmic equations and systems of equations algebraically, graphically, and with technology.

## Grading

### Grading Scale

| Grade | Points | Percent |
|---|---|---|
| A | 900 - 1000 | 90-100% |
| B | 800 - 899 | 80-89% |
| C | 700 - 799 | 70-79% |
| D | 600 - 699 | 60-69% |
| F | 0 - 599 | 0-59% |

### Grade Weights

| Assignment Category | Points | Percent |
|---|---|---|

| | | |
|---|---|---|
| Online Learning Activity | 150 | 15% |
| Weekly Evaluations | 400 | 40% |
| Mathematical Model | 20 | 2% |
| Online Post | 20 | 2% |
| Final Exam | 200 | 20% |
| Weekly Assigned Homework | 210 | 21% |
| **Total** | **1000** | **100%** |

## Schedule of Due Dates

### Week 1

| Assignment | Points | Due |
|---|---|---|
| Week One Assignments, Mathematical Models and Graphs | 30 | 10/30/19 |

### Week 2

| Assignment | Points | Due |
|---|---|---|
| MyLabsPlus Quiz 1 | 25 | 11/03/2019 |
| Week Two Assignments, Linear Equations and Inequalities | 30 | 11/6/19 |
| Evaluation 1 | 80 | 11/6/19 |

### Week 3

| Assignment | Points | Due |
|---|---|---|
| MyLabsPlus Quiz 2 | 25 | 11/10/2019 |
| Week Three Assignments, Quadratic Equations and Functions | 30 | 11/13/19 |
| Evaluation 2 | 80 | 11/13/19 |

### Week 4

| Assignment | Points | Due |
|---|---|---|
| MyLabsPlus Quiz 3 | 25 | 11/17/2019 |
| Week Four Assignments, Algebraic Functions | 30 | 11/20/19 |
| Weekly Evaluation 3 | 80 | 11/20/19 |

### Week 5

| Assignment | Points | Due |
|---|---|---|
| MyLabsPlus Quiz 4 | 25 | 11/24/2019 |
| Week Five Assignments, Exponential and Logarithmic Functions | 30 | 11/27/19 |
| Evaluation 4 | 80 | 11/27/19 |

### Week 6

| Assignment | Points | Due |
|---|---|---|
| MyLabsPlus Quiz 5 | 25 | 12/01/2019 |
| Week Six Assignments, Logarithmic Models and Properties | 30 | 12/4/19 |
| Evaluation 5 | 80 | 12/4/19 |

### Week 7

| Assignment | Points | Due |
|---|---|---|
| MyLabsPlus Quiz 6 | 25 | 12/08/2019 |
| Week Seven Assignments, Polynomial Functions and Equations | 30 | 12/11/19 |

| Assignment | Points | Due |
|---|---|---|
| Assignment | Points | Due |

## Week 8

| Assignment | Points | Due |
|---|---|---|
| Final Examination | 200 | 12/11/19 |
| Mathematical Model | 20 | 12/11/19 |

**Total Points: 1000**

## Assignment Overview

### Online Component Expectations

This course uses an online learning application called MyLabsPlus, which is designed to accompany your textbook. You must have access to MyLabsPlus in order to complete the online graded quizzes for this course. There are 6 MyLabsPlus quizzes worth 25 points each. Each quiz includes 15 - 18 items. There is a 1 hour time limit, and problems for each week may be accessed multiple times before the deadline for each module. You will be allowed two attempts for every quiz. They are assigned during Weeks 2 – 7 and will cover content from Chapters 1 – 6 of the textbook.

## Course Outline

Click on each week to view details about the activities scheduled for that week.

### Week 1:

**Week One Assignments, Mathematical Models and Graphs**
Sections covered this evening during class are as follows:

1.1: Functions and Models

1.2: Graphs and Functions

1.3: Linear Equations

1.4: Equations of Lines

2.1: Algebraic and Graphical Solutions of Linear Equations

2.2: Fitting Lines to Data Points and Modeling Linear Functions

### Week 2:

**MyLabsPlus Quiz 1**
MyLabsPlus Quiz 1 (Covers Chapter 1)

**Week Two Assignments, Linear Equations and Inequalities**
Concepts covered from class this evening are from the following sections:

2.3: Systems of Linear Equations in Two Variables

2.4: Solutions of Linear Inequalities

3.1: Quadratic Functions and Problems

3.2: Solving Quadratic Equations

**Evaluation 1**
Evaluation One will cover sections 1.1-1.4, as defined on the course syllabus. Additional details will be provided during our class meeting.

## Week 3:

**MyLabsPlus Quiz 2**
MyLabsPlus Quiz 2 (Covers Chapter 2)

**Week Three Assignments, Quadratic Equations and Functions**
Sections covered this evening come from the following sections:

3.3: Quadratic Functions

3.4: Quadratic Models

4.2: Combinations of Functions

4.3: Composite Functions

**Evaluation 2**
Evaluation Two will cover sections covered during the 11/6/19 class meeting. Specific details will be provided during class.

## Week 4:

**MyLabsPlus Quiz 3**
MyLabsPlus Quiz 3 (Covers Chapter 3.1 – 3.4)

**Week Four Assignments, Algebraic Functions**
Concepts covered this evening come from the following sections:

4.2: Composite Functions

4.3: One-to-One Functions and Inverse Functions

5.1: Exponential Functions

**Weekly Evaluation 3**
Evaluation Three will include concepts covered during 11/13/19. Additional details will be provided during our class meeting.

## Week 5:

**MyLabsPlus Quiz 4**
MyLabsPlus Quiz 4 (Covers Chapter 4.2 – 4.3, 5.1)

**Week Five Assignments, Exponential and Logarithmic Functions**
The concepts covered this evening will come from the following sections:

5.1: Exponential Functions

5.2: Logarithmic Functions

5.3: Exponential and Logarithmic Equations

**Evaluation 4**
Evaluation Four will cover concepts covered during the 11/20/19 class meeting. Additional details will be provided in class.

## Week 6:

**MyLabsPlus Quiz 5**
MyLabsPlus Quiz 5 (Covers Chapter 5.2 – 5.4)

**Week Six Assignments, Logarithmic Models and Properties**
The following sections from our text will be covered this evening.

Section 5.3: Exponential and Logarithmic Equations

Section 5.4: Exponential and Logarithmic Models

Section 6.1: Higher-Order Polynomial Functions

**Evaluation 5**

Evaluation five will cover the sections which were discussed during the 11/27/19 class meeting.

### Week 7:

**MyLabsPlus Quiz 6**
MyLabsPlus Quiz 6 (Covers Chapter 6.1 – 6.3, 6.5)

**Week Seven Assignments, Polynomial Functions and Equations**
The following sections will be covered during this class meeting.

Section 6.2: Modeling with Cubic and Quartic Functions

Section 6.3: Solutions to Polynomial Equations

Section 6.5: Rational Functions and Rational Equations

**Online Post**
Information regarding the online post will be provided during our class meetings.

### Week 8:

**Final Examination**
The final examination is semi-comprehensive with an emphasis on sections 5.1-6.5, as defined by the syllabus. Additional details will be provided during class.

**Mathematical Model**
Each student will develop a mathematical model which is used to solve a real-life word problem. Additional information and guidelines will be provided during class.

## Additional Resources

Online databases are available at library.ccis.edu. You may access them using your CougarTrack login and password when prompted.

### Technical Support

If you have problems accessing the course or posting your assignments, contact your instructor, the Columbia College Technology Solutions Center, or the D2L Helpdesk for assistance. If you have technical problems with the VitalSource eText reader, please contact VitalSource. Contact information is also available within the online course environment.

- Columbia College Technology Solutions Center: CCHelpDesk@ccis.edu, 800-231-2391 ex. 4357
- D2L Helpdesk: helpdesk@d2l.com, 877-325-7778
- VitalSource: support@vitalsource.com, 1-855-200-4146

### Online Tutoring

Smarthinking is a free online tutoring service available to all Columbia College students. Smarthinking provides real-time online tutoring and homework help for Math, English, and Writing. Smarthinking also provides access to live tutorials in writing and math, as well as a full range of study resources, including writing manuals, sample problems, and study skills manuals. You can access the service from wherever you have a connection to the Internet. I encourage you to take advantage of this free service provided by the college.

Access Smarthinking through CougarTrack at Students -> Academics -> Resources.

## Columbia College Policies and Procedures

The policies set forth in the **Policy Library** are the current official versions of College policies and supersede and replace any

other existing or conflicting policies covering the same subject matter. For more information on policies applicable to students, see **Student Policies**. For more information on policies applicable to the entire Columbia College community, see **College-Wide Policies**.

Students are expected to read and abide by the College policies. Policies of particular interest to students include, but not limited to the following:

- Graduate Grading Policy
- Undergraduate Grading Policy
- Registration Policy and Procedures
- Withdrawal Policy
- Alcohol and Other Drugs Policy
- Family Educational Rights and Privacy Act (FERPA)

## Additional Policies:

### Academic Integrity and Plagiarism

Academic integrity is a cumulative process that begins with the first college learning opportunity. Students are responsible for knowing and abiding by the **Academic Integrity Policy and Procedures** and may not use ignorance of either as an excuse for academic misconduct. Additionally, all required papers may be submitted for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers may be included in the Turnitin.com reference database for the purpose of detecting plagiarism. This service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

### Disability Resources

If you have a disability that requires an accommodation, please speak with the instructor and consult the **Student Accessibility Resources** office. Student Accessibility Resources staff will determine appropriate accommodations and will work with your instructor to make sure these are available to you. To find additional information, see our **ADA and Section 504 Policy for Students**.

### Notice of Non-Discrimination and Equal Opportunity:

The College has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of discrimination, harassment, or retaliation on the basis of protected status, can report their experiences to a College official. For more information, see our **Non-Discrimination and Equal Opportunity Policy and Complaint Resolution Procedure**.

### Title IX and Sexual Misconduct

The College is committed to addressing the issues of discrimination, harassment and sexual misconduct in the educational and workplace landscape and will continue to modify policies, procedures and prevention efforts as needed. For more information, see the College's **Title IX and Sexual Misconduct Policy**.

## Course Policies and Procedures:

### Attendance Policy

Columbia College students are expected to attend all classes and laboratory periods for which they are enrolled.

For classes with an online component, attendance for a week includes submitting any assigned online activity. Assigned activities are scheduled prior to the course commencing. Assigned activity due dates are subject to change based on actual course progression and will be adjusted as necessary. Attendance for the week is based upon the date work is submitted. A class week is defined as the period of time between Monday and Sunday (except for week 8, when the work and the course will end at 11:59 PM Central Time on Saturday.) The course and system deadlines are based on the Central Time Zone.

Students are directly responsible to instructors for class attendance and work missed during an absence for any cause. If absences jeopardize progress in a course, the College reserves the right to drop or withdraw students from classes. For additional information, see the Administrative Withdrawal for Non-Attendance heading in the **Withdrawal Policy**.

### CougarMail

All students are provided a CougarMail account when they enroll in classes at Columbia College. You are responsible for monitoring email from that account for important messages from the College and from your instructor.

Students should use email for private messages to the instructor and other students. The class discussions are for public messages so the class members can each see what others have to say about any given topic and respond.

### Late Assignment Policy

All classes rely on participation and a commitment to your instructor and your classmates to regularly engage in the reading, discussion and writing assignments. You must keep up with the schedule of reading and writing to successfully complete the class.

No late assignments will be accepted without the prior approval of the instructor.

Acceptance of a late assignment is at the discretion of the instructor.

Make-up examinations may be authorized for students who miss regularly-scheduled examinations due to circumstances beyond their control. Make-up examinations must be administered as soon as possible after the regularly scheduled examination period and must be administered in a controlled environment.

### Student Conduct

All Columbia College students, whether enrolled in a land-based or online course, are responsible for behaving in a manner consistent with Columbia College's **Student Conduct Code** and **Acceptable Computing Use Policy**. Students violating these policies or any other College policy will be referred to the office of Student Affairs and/or the office of Academic Affairs for possible disciplinary action. The Student Code of Conduct, the **Student Behavioral Misconduct Policy and Procedures**, and the Acceptable Computing Use Policy can be found in the Policy Library at **ccis.edu/policies**. The adjunct faculty member maintains the right to manage a positive learning environment all students must adhere to the conventions of online etiquette when enrolled in a course with an online component.