

<b>MAT 161 WD5</b>
<b>College Algebra</b>
<b>Syllabus</b>

**Faculty Information:**

**Instructor:** Valerie Martin, AA, BA, MS  
**Email Address:** vmartin@abtech.edu  
**Office:** Elm 341 (Asheville Campus)  
**Phone:** (828) 254 – 1921 ext 385  
**Office Hours:** Monday, Wednesday, Friday 11:00 – 11:50 am  
Monday 12:00 – 12:50 pm  
Tuesday, Thursday 12:00 – 12:25 pm

**Course Information:**

**Course Title:** College Algebra  
**Course Number:** MAT 161 WD5  
**Credit Hours:** 3 Credits  
**Class Location:** Elm 338  
**Class Meeting Time:** MWF 8:00 – 8:50 am  
**URL:** <http://coursecompass.com>  
**Course ID:** martin61763

**Common Course Library Description:**

This course provides an integrated technological approach to algebraic topics used in problem solving. Emphasis is placed on applications involving equations and inequalities; polynomials, rational, exponential and logarithmic functions; and graphing and data analysis/modeling. Upon completion, students should be able to choose an appropriate model to fit a data set and use the model for analysis and prediction. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics for the A.A. degree.

**Prerequisites:** MAT 080 or MAT 090

**Corequisite:** MAT 161 A O5 (online course – 1 credit)

**Textbook:** Blitzer, College Algebra, Fourth Edition  
ISBN: 0-13-219141-5  
Required of all students

### **Course Goal:**

Upon completion, students should be able to choose the appropriate model to fit a data set and use the model for analysis and prediction.

### **Course Specific Competencies:**

Upon successful completion of the course, the students will be able to:

- Solve applications involving polynomial equations and inequalities
- Solve applications involving rational equations and inequalities
- Solve applications involving exponential and logarithmic functions
- Solve applications involving graphing and data analysis/modeling techniques

### **Reinforcement Experiences for General Education Cross-Curriculum Competencies:**

The course encapsulates reinforcement experiences for the general education cross-curriculum competencies:

- Communicate effectively in speaking, writing, reading, and listening
- Locate, evaluate, and use information to analyze problems and make logical decisions
- Apply math skills and/or natural science knowledge appropriately to organize, analyze and make information useful
- Develop the ability to succeed as a self-directed learner

### **Grading Policy - MAT161-WD5 – (3 CREDITS)**

You will have 5 chapter tests, several take-home assignments, and a final exam during the semester. Your chapter test average will account for 60% of your final grade. Take home assignments (take home quizzes) will be given each week and account for 20% of your final grade. **The Final Exam is mandatory will account for 20% of your final grade.** All tests will be closed book. Unless PRIOR arrangements have been made, **makeup tests will not be given.** The first missed test and take home assignment will be dropped. Any other test or take home assignment missed will be counted as a zero. If no tests or take home assignments are missed during the semester, your lowest score from EACH category will be dropped. If for any reason it is necessary for you to withdraw from this class, you must complete the appropriate form and submit it to the Records and Registration Office by the deadline. If you quit attending class without completing the appropriate forms your grade will become an “F”. The final grade will be based on a 10-point grading scale: A(90-100), B(80-89),C(70-79),D(60-69), F(below 60)

If for any reason it is necessary to withdraw from this class, it is the student's responsibility to complete the appropriate forms and submit them to the Records & Registration Office by the deadline. Failure to complete forms by the deadline or a violation of the attendance policy will result with a grade of an "F". The final course grade will be calculated as follows:

- 60% Chapter Test Average
- 20% Take Home Assignments
- 20% Final Exam

The AB-Tech course grading system will be used for recording the final course grade. **A**(90 %-100%), **B**(80%-89%), **C**(70%-79%), **D**(60%-69%), **F**(Below 60%)

### **Attendance Policy;**

To receive course credit, a student must attend a minimum of 80% of the contact hours of the class. Upon accumulating absences exceeding 20% of the course contact hours, the student may be dropped from the class with a grade of "U". A tardy is defined as arriving late for class, leaving early, or being away from class without permission during class hours. Three tardies may constitute one absence. (Refer to pg 74 of your student handbook)

### **Email Policy:**

The AB-Tech student email is to be used for official school business. *All electronic correspondence must take place through your AB-Tech email account.* The format for student emails is: [firstnamemiddleinitiallastname@students.abtech.edu](mailto:firstname.middleinitial.lastname@students.abtech.edu)  
All emails should start with the following information:

Class:  
Class Section:  
Student ID:  
Official Student Roster Name:

### **Calculator:**

A graphing calculator is required for this course. The instructor will be using the TI-84 plus for instructional purposes. The TI-89 and TI-92 are NOT permitted.

### **Important Dates:**

Classes begin	January 12 <sup>th</sup>
Martin King Jr. Day	January 19 <sup>th</sup>
Last Day to Drop for Partial Refund	January 22 <sup>nd</sup>
Professional Development (no classes 12 pm- 5 pm)	February 17 <sup>th</sup>
Last Day to Apply for Spring Graduation	February 27 <sup>th</sup>
Student Break	March 13 <sup>th</sup> *
Last Day to Withdraw from Class w/o Penalty	April 7 <sup>th</sup>
Spring Break	April 13 <sup>th</sup> -18 <sup>th</sup>
Activity Day – Earth Day	April 24 <sup>h</sup>
Last Day of Classes/Exams	May 12 <sup>th</sup> *
Spring Graduation	May 15 <sup>th</sup>

\*Up to three days may be made up at the end of the semester for inclement weather. All dates are subject to change.

### **Activity Schedule:**

This schedule will be used for most approved and announced student activities.

Normal Class Time	Activity Day Schedule
<u>8:00 am</u>	<u>8:00 – 8:40 am</u>
<u>8:30 am</u>	<u>8:20 – 9:00 am</u>
<u>9:00 am</u>	<u>8:45 – 9:25 am</u>
<u>9:30 am</u>	<u>9:05 – 9:45 am</u>
<u>10:00 am</u>	<u>9:30 – 10:10 am</u>
<u>10:30 am</u>	<u>9:50 – 10:30 am</u>
<u>11:00 am</u>	<u>10:15 – 10:55 am</u>
<u>11:30 am</u>	<u>10:35 – 11:00 am (note 25 minutes)</u>

11:00 am – 1:00 pm Scheduled Activities!!

<u>12:00 pm</u>	<u>1:00 – 1:40 pm</u>
<u>12:30 pm</u>	<u>1:20 - 2:00 pm</u>
<u>1:00 pm</u>	<u>1:45 – 2:25 pm</u>
<u>1:30 pm</u>	<u>2:05 – 2:45 pm</u>
<u>2:00 pm</u>	<u>2:30 – 3:10 pm</u>
<u>2:30 pm</u>	<u>2:50 – 3:30 pm</u>
<u>3:00 pm</u>	<u>3:15 – 3:55 pm</u>
<u>3:30 pm</u>	<u>3:35 – 4:15 pm</u>
<u>4:00 pm</u>	<u>4:00 pm</u>

### **Inclement Weather Schedule:**

The college will close when weather conditions are such that driving is hazardous. The following procedure will be observed for inclement weather conditions:

1. Announcements concerning school operation will be made by 6:30 am on local radio and TV stations for the day classes. A voice message will be recorded on the switchboard. If it appears that the ice or snow may be cleared by mid-morning, the schedule to follow will be used and all College personnel and students should report by 10 am.
2. Closing or delaying the day programs does not automatically close evening classes. Announcements will be made on radio stations and the College switchboard no later than 3 pm concerning the evening classes.
3. When weather conditions dictate early dismissal of the day or evening classes, the announcement will be made by telephone to each building on campus.
4. Adjustments in the College Calendar for the days missed because of inclement weather will be made at the end of the semester.
5. Important: If weather conditions become worst after the 6:30 am announcement, an additional announcement closing school for the day will be made no later than 8:30 am. Oak Student Center will open at 8 am for early arrivals.

### **Inclement Weather Schedule:**

Normal Class Time	Delayed Opening
<u>8:00 am</u>	<u>10:00 – 10:40 am</u>
<u>8:30 am</u>	<u>10:20 – 11:00 am</u>
<u>9:00 am</u>	<u>10:45 – 11:25 am</u>
<u>9:30 am</u>	<u>11:05 – 11:45 am</u>
<u>10:00 am</u>	<u>11:30 am – 12:10 pm</u>
<u>10:30 am</u>	<u>11:50 am – 12:30 am</u>
<u>11:00 am</u>	<u>12:15 – 12:55 pm</u>
<u>11:30 am</u>	<u>12:35 – 1:15 pm</u>
<u>12:00 pm</u>	<u>1:00 – 1:40 pm</u>
<u>12:30 pm</u>	<u>1:20 – 2:00 pm</u>
<u>1:00 pm</u>	<u>1:45 – 2:25 pm</u>
<u>1:30 pm</u>	<u>2:05 – 2:45 pm</u>
<u>2:00 pm</u>	<u>2:30 – 3:10 pm</u>
<u>2:30 pm</u>	<u>2:50 – 3:30 pm</u>
<u>3:00 pm</u>	<u>3:15 – 3:55 pm</u>
<u>3:30 pm</u>	<u>3:35 – 4:15 pm</u>
<u>4:00 pm</u>	<u>4:00 pm</u>

### **Code of Student Conduct:**

Academic Dishonesty – You may not deceive any official of the college by cheating on any assignment, exam, or paper. This includes plagiarism, which is the intentional theft or unacknowledged use of another’s words or ideas. Plagiarism includes (but not limited to) paraphrasing or summarizing another’s words or *works* without proper acknowledgement, using direct quotes of material without proper acknowledgement, or purchasing/using a paper or *presentation* written or *produced* by another. The faculty at AB Tech *may* also consider presenting as original work a paper written for one class to satisfy a requirement in another class to be academic dishonesty.

### **Code of Classroom Conduct:**

AB Tech is an institution for adult learning. It is a partnership between instructors with the desire to teach and students with a desire to learn. In order to create an appropriate environment for teaching and learning, there must be respect for the instructor and fellow students. The list that follows is guidelines for classroom behavior, which the College has established to ensure that the learning environment is not compromised.

1. **Attendance:** You are expected to be in class the entire class time. Do not enter late or leave early. Rare exceptions may be excused, particularly under emergency circumstances, but you should be prepared to explain your tardiness to the instructor after class. Likewise, the need to leave early should be explained to the instructor before class.
2. **Absences:** Inform the instructor in advance if you know you are going to miss class. Also, take responsibility for getting missed assignments from other students. Do not expect that you will be allowed to make up work, such as unannounced quizzes or tests, after an absence. Instructors are not responsible for re-teaching the material you missed because of absence.
3. **Conversation:** Do not carry on side conversation in class.
4. **Other Activities:** You may not work on other activities while in class. This includes homework for other courses or other personal activities.
5. **Internet:** In classes where the Internet access is provided, you may use the Internet for valid, academic purposes only. You may not use it for open access to other non-academic sites, which are unrelated to the course.
6. **Sleep:** Do not sleep in class.
7. **Attitude:** You are expected to maintain a civil attitude in class. You may not use inappropriate or offensive commentary or body language to show your attitude regarding the course, the instructor, assignments, or fellow students. Keep in mind that all electronic interactions (email, chats, discussion forums etc) are extensions of the classroom and should be treated as such. Unacceptable language and behavior will be addressed as if you were sitting in the classroom. . Keep in mind that all electronic interactions (email, chats, discussion forums etc) are extensions of the classroom and should be treated as such. Unacceptable language and behavior will be addressed as if you were sitting in the classroom.
8. **Profanity and Offensive Language:** You may not use profanity or offensive language in class.

9. **Cell Phones and Beepers:** You may not receive or send telephone calls or pages during class. You are responsible for turning off cell phones and beepers upon entering class.
10. **Guest:** You may not bring unregistered friends or children to class.
11. **Food, Drink, Tobacco Products:** You may not have food or drink in class. You may not use tobacco products in the buildings of AB Tech.
12. **Personal Business:** You may need to transact personal business with the instructor, asking him/her to sign forms. Plan to do this before instruction begins or after class.

Typically, violations of the Code of Classroom Conduct will be dealt with as minor infractions. However, repetitions of minor infractions or other more serious violations of the Code of Student Conduct may lead to removal from the classroom while the matter is resolved and referral to the Vice President of Student Services for disciplinary action.

#### **NETIQUETTE STATEMENT:**

##### **GENERAL:**

1. **Understand that typed messages lack cues normally associated with face-to-face conversation. Without these supporting cues for context, satire or sarcasm can come across in unintended ways.**
2. **Use parenthetical explanation to explain meanings that might be misunderstood.**
3. **Do not criticize spelling or grammar but do check your own spelling, punctuation, and grammar.**
4. **Don't use all capital letters. In the online world, this is the equivalent of shouting and it is difficult to read.**
5. **All lowercase letters indicate mumbling.**
6. **Be brief and to the point.**

##### **SUBJECT LINES:**

1. **Keep subject lines short.**
2. **Make subject lines informative by indicating the content of the message.**
3. **Make subject lines clear and unambiguous.**

### **REPLYING:**

1. **If you excessively reply to ongoing discussions and include the original message, your messages will be very long and hard to follow.**
2. **For simple messages, quoting the original message when replying will clarify your response.**
3. **Using carets to indicate lines of text that are quoted.**

### **EMAIL:**

1. **Unless you are explicitly given permission, don't publicly post email sent to you in private.**
2. **Recognize that instant delivery of email does not guarantee an instant response.**
3. **If you are sending information from another source, pay attention to whether the material is copyrighted and cite sources.**
4. **For important messages, compose a draft in a word processor so you can spell check it.**
5. **Be careful when addressing emails. One character out of place, or a ".com" suffix when the person's email really ends with ".edu", and your message won't be delivered.**
6. **If it is going to take considerable time to reply fully, try to acknowledge receipt of a message promptly and let the sender know that you will answer.**

### **ATTACHMENTS:**

1. **Do not send huge attachments.**
2. **When you're replying to a message that has an attachment, do not include the attachment again.**
3. **Avoid sending attached files that lack filename extensions (that's because some computers won't be able to open them).**

### **FLAMING:**

1. **Do not flame! Flaming refers to derogatory, abusive, threatening, sarcastic, rude, or otherwise mean-spirited messages directed at people.**
2. **If a message provokes a negative emotional response, put it away for a while, then reread it and see if you're misinterpreting it. If you don't understand a particular item, ask the sender for clarification before replying to an incorrect conclusion.**
3. **Messages are not secure. Remember, it's very easy for someone else to forward messages you thought were confidential.**
4. **Apologize. If there's been a misunderstanding or miscommunication, you can often nip a flame war in the bud by a brief apology.**

5. **Don't write anything that you won't want other people to be able to see for a long time (posts can be archived for years).**

### **DISCUSSION:**

1. **Lurk before you leap. Lurking is visiting without participating. While it's rude to make a habit of lurking, a little lurking can acquaint you with rules and procedures, help you get the "lay of the land," and prevent embarrassment.**
2. **Avoid posting non-informative messages on bulletin boards. Chat is more like a telephone, so saying "Me, too!" or "I don't know" is accepted. But on bulletin boards, people don't like to read postings that aren't substantive.**

### **CHAT:**

1. **Remember that chat rooms are "logged" (i.e., a record is kept of conversations).**
2. **Do not disrupt chat rooms by pasting large blocks of text into the input box (thus causing the screen to scroll faster than other users are able to type) or otherwise act in a manner that negatively affects other users' ability to engage in real time exchanges.**
3. **If you are having a conversation that is off the main topic, please move to another chat room.**
4. **If you are a fast typist, please pause occasionally to let slower typists contribute to the discussion.**

\*Please note this Netiquette statement was inserted as a requirement of the Mathematics Department at AB-Tech. The author of Netiquette is Robert Bramucci from **California State University at Fullerton**

### **Other Information:**

Tutoring in math and related courses is available in the Academic Learning Center, Ferguson Building, Room 118. The hours are from 9 am to 6:30 pm Monday through Thursday, and 9 am to 1pm on Friday. Computer labs on campus that currently have MyMathLab access:

- Ferguson 116 (Open computer/Writing)
- Elm 200 (Transfer Advising Center)
- Sycamore 216 (Early College Lab)
- Sycamore 312 (Science Lab)
- LRC

### **Tobacco Free Campus:**

Asheville-Buncombe Technical Community College is committed to providing students and employees with a safe and healthy environment. *It is the policy of Asheville-Buncombe Technical Community College that tobacco use is not permitted on AB-Tech's campuses. AB-Tech is tobacco-free.*

## **MATHEMATICS DEPARTMENT STATEMENT:**

Dear Student,

Welcome to the Mathematics Department!

We look forward to working with you and providing you with the very best education in mathematics.

We are a seven-member team that boasts a combined experience of over one-hundred-fifty years in professional education. We are extremely proud of our services and our accomplishments, and we always strive to maintain the best of quality instruction and as well as adherence to high academic standards and goals. Because of this dedication, we enjoy an excellent academic reputation with the surrounding upper-division colleges and universities in the region. It is a high priority to maintain this reputation, and consequently the value of your degree.

In order to be successful in your Math class and to ensure that other students have the learning environment they deserve, we require that you adhere to the Code of Student Conduct located in your Student Handbook, and on your syllabus. A positive learning environment makes it much easier for any student to achieve their goals.

If it is necessary for you to discuss any personal issue with your instructor, it is imperative that you do so during their office hours or during an out of class appointment.

We are happy to meet with you to talk about any issue that is relevant to your participation in class, or your grade in the course. We have appropriate and time-proven suggestions that should help you.

As a student at AB-Tech, it is expected that you to keep up with the class, turn in assignments on time, and take responsibility for your education. The instructor will assist you in every way possible that does not compromise the integrity of the course itself. Our reputation depends on it.

Again, Welcome to AB-Tech and have a great semester!

R. Trent Codd, Jr.; Chairman; AA, BS, BSCS, MA, EASGC; 38 years of experience

Jerry L. Ashe; Instructor; AA, BS, MS; 22 years of experience

Jackie Caldwell; Instructor; BS, MA; 20 years of experience

Karma Crouch; Instructor; BS, MA Ed; 23 years of experience

Valerie Martin; Instructor; AA, BA, MS; 8 years of experience

Tammy Pagan; Instructor; AA, BS, MS; 20 years of experience

Robby Webb; Instructor; BA, MA; 23 years of experience

### **Statement of Right to Make Changes:**

I, Valerie Martin, reserve the right to make changes in the syllabus. Any changes that occur will be announced in class, on the homepage of the Online Course and/or via email.

**MAT 161**  
**College Algebra**  
**Course Outline**

- I.** Chapter 1: Equations and Inequalities
  - A.** 1.1 Graphs and Graphing Utilities
  - B.** 1.2 Linear and Rational Equations
  - C.** 1.3 Models and Applications
  - D.** 1.4 Complex Numbers
  - E.** 1.5 Quadratic Equations
  - F.** 1.6 Other Types of Equations
  - G.** 1.7 Linear Equations and Absolute Value Inequalities
  - H.** Chapter 1 Review – Practice Test online\*\*
  - I.** Chapter 1 Test
  
- II.** Chapter 2: Functions and Graphs
  - A.** 2.1 Basics of Functions and Their Graphs
  - B.** 2.2 More on Functions and Their Graphs
  - C.** 2.3 Linear Functions and Slope
  - D.** 2.4 More on Slope
  - E.** Review Sections 2.1 – 2.4 Practice Tests online\*\*
  - F.** Chapter Two Test: 2.1 – 2.4
  - G.** 2.5 Transformations of Functions
  - H.** 2.6 Combinations of functions; Composite Functions
  - I.** 2.7 Inverse Functions
  - J.** 2.8 Distance and Midpoint Formulas; Circles
  - K.** Review Sections 2.5 – 2.8 Practice Tests online\*\*
  - L.** Chapter 2 Test: 2.5 – 2.8
  
- III.** Midterm: Chapters 1 and 2
  
- IV.** Chapter 3: Polynomial and Rational Functions
  - A.** 3.1 Quadratic Functions
  - B.** 3.2 Polynomial Functions and Their Graphs
  - C.** 3.3 Dividing Polynomials: Remainder and Factor Theorems
  - D.** 3.4 Zeros of Polynomial Functions
  - E.** 3.5 Rational Functions and Their Graphs
  - F.** 3.6 Polynomial and Rational Inequalities
  - G.** 3.7 Modeling Using Variation
  - H.** Chapter 3 Review – Practice Test online\*\*
  - I.** Chapter 3 Test
  
- V.** Chapter 4: Exponential and Logarithmic Functions
  - A.** 4.1 Exponential Functions
  - B.** 4.2 Logarithmic Functions
  - C.** 4.3 Properties of Logarithms
  - D.** 4.4 Exponential and Logarithmic Equations
  - E.** 4.5 Modeling with Exponential and Logarithmic Functions
  - F.** Chapter 4 Review – Practice Test online\*\*
  - G.** Chapter 4 Test
  
- VI.** Final Exam: Chapters 1, 2,3 and 4  
\*\*The reviews are optional\*\*

**MAT 161 - COLLEGE ALGEBRA**  
**Suggested Exercises from the Textbook**

<b>Sections</b>	<b>Page</b>	<b>Assignment - Odds</b> (unless otherwise indicated)
P.1	Real Numbers and Algebraic Expressions	14-16      1-121
P.2	Exponents and Scientific Notation	28-29      1-114
P.3	Radicals and Rational Exponents	42-43      1-107
P.4	Polynomials	54-55      1-89
P.5	Factoring Polynomials	66-67      1-91
P.6	Rational Expressions	77          1-63
<b>NO TEST in Chapter P</b>		
1.1	Graphs and Graphing Utilities	91-93      1-59
1.2	Linear and Rational Equations	104-105    1-49, 57-79
1.3	Models and Applications	118-121    1-9,19-23,29-51,61-77
1.4	Complex Numbers	127-128    1-49
1.5	Quadratic Equations	144-146    1-113,135-141
<b>TEST 1</b>		
1.6	Other Types of Equations	160-161    1-37,41-57,61-75
1.7	Linear and Absolute Value Inequalities	175          1-101 (skip 15-25) 123-133
2.1	Basics of Functions and their Graphs	197-199    1-38,55-91
2.2	More on Functions and Graphs	211-213    23-63
2.3	Linear Functions and Slope	211-212    1-71
<b>TEST 2</b>		
2.4	More on Slope	238-239    1-33
2.5	Transformations of Functions	253-254    1-117
	(skip #11-15,27-31,39-43,49,51,61-65,75,79,91,93,101,105,111,113)	
2.6	Combinations of Functions; Composite Functions	266-267    1-27,31-63,
	(2.6 homework continued): # 65-71(part a only), 73-79	
2.7	Inverse Functions	278-279    1-37
2.8	Distance, Midpoint Formulas; Circles	286-287    1-59
<b>TEST 3</b>		
3.1	Quadratic Functions	309-311    1- 43,59-67
3.2	Polynomial Functions and Their Graphs	322-324    1-31,41-63,77
3.3	Dividing Polynomials: Remainder and Factor Theorems	335          1-49, 64
3.4	Zeros of Polynomial Functions	347-348    1-23,39-59
3.5	Rational Functions and Their Graphs	366-367    1-7,21-35,49-69
3.6	Polynomial and Rational Inequalities	378          1-55, 71, 73, 75
<b>TEST 4</b>		
3.7	Modeling Using Variation	388-390    1-35
4.1	Exponential Functions	408-409    1-31,35-41,53-55
4.2	Logarithmic Functions	421-422    1-43,47-55,59-65,75-99
4.3	Properties of Logarithms	431-432    1-35,41-65,71-77
4.4	Exponential and Logarithmic Equations	442-444    1-41,49-69,105-111
*4.5	Modeling with Exponential and Logarithmic Functions	455-457    1-17
<b>TEST 5</b>		

**FINAL**

**\*Optional Material**

This schedule is tentative and is subject to change

**Course Syllabus – Spring 2009**  
**MAT 161 WD5**  
**College Algebra**

**Your Acknowledgement:**

I have been provided access to the course syllabus, understand what is expected of me, and agree to the provisions set forth in the syllabus.

\_\_\_\_\_  
Your Name

\_\_\_\_\_  
Your Student ID Number

\_\_\_\_\_  
Your Signature

\_\_\_\_\_  
Date