

WBUOnline
SCHOOL OF MATHEMATICS & SCIENCES

Wayland Baptist University exists to educate students in an academically challenging, learning-focused and distinctively Christian environment for professional success and service to God and human kind.

COURSE NO. AND TITLE: MATH 1304-VC03 – COLLEGE ALGEBRA**TERM:** Spring 2019**INSTRUCTOR:** Dr. Scott R. Franklin, Dean of Math and Sciences, Professor of Mathematics**OFFICE PHONE:** 806-291-1130**MOBILE/TEXT:** 806-252-3855**EMAIL:** franklins@wbu.edu**OFFICE:** Moody Science Building, Room 121

Description: Rational expressions, radicals, complex numbers, graphs, second-degree equations in one or two variables, exponential and logarithmic functions, conic sections, sequences, and series

Prerequisites: MATH 1300 (Intermediate Algebra) or
Placement: This class is intended for students who do not qualify for calculus or trigonometry, but who have had two years of algebra with a grade of “B” or above. Students start here unless there is a reason for placing them above or below this level.

Required Resources:

Lecture Notes: Lecture Notes for College Algebra by Dr. Scott Franklin
This is available through the Wayland Bookstore or downloadable from Blackboard. If you choose to download the lecture notes, you will need to print them so you can fill them in as you watch the online lecture videos.

Student Access Pack: MyMathLab Student Access Kit (ISBN: 0-13-147894-X)
This resource is provided through [RedShelf Inclusive Access](#). More information about RedShelf and how you are billed for this content can be found through the link: https://bookstore.wbu.edu/site_inclusive.asp

Supplies: All students need to have a scientific calculator that has at least $\log x$ and $\ln x$ functions, and the exponential function (e^x). You will NOT be allowed to use your smart phone as a calculator on the exams.

Optional Materials:

Textbook (hard copy): INTERMEDIATE ALGEBRA FOR COLLEGE STUDENTS, 6th edition by Blitzer (ISBN: 0-13-600762-7)

NOTE: The hard copy of the textbook is optional because the access code above will grant you access to an online copy of the textbook.

Course Outcome Competencies:

The student will develop algebraic and quantitative skills useful in the study of other disciplines.

1. The student will be able to solve quadratic, rational, exponential, logarithmic, and radical equations.
2. The student will be able to perform algebraic operations on rational and radical expressions and on complex numbers.
3. The student will be able to identify various conic sections.
4. The student will be able to identify and find the sums of arithmetic and geometric sequences.
5. The student will develop algebraic techniques necessary for problem-solving and mathematical modeling.

Attendance:

Students are expected to participate in all required instructional activities in their courses. In this course, your weekly assignments (including watching the videos, completing the homework, and taking the quizzes) will be the measure of attendance. Any week in which a student does not complete any work, the student will be considered “absent.” Any student absent 25% or more (i.e., non-participatory during 3 or more weeks of the term) will receive an F for the course.

Statement on Plagiarism and Academic Dishonesty:

Wayland Baptist University observes a zero tolerance policy regarding academic dishonesty. Per university policy as described in the academic catalog, all cases of academic dishonesty will be reported and second offenses will result in suspension from the university.

Disability Statement:

In compliance with the Americans with Disabilities Act of 1990 (ADA), it is the policy of Wayland Baptist University that no otherwise qualified person with a disability be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity in the university. The Coordinator of Counseling Services serves as the coordinator of students with a disability and should be contacted concerning accommodation requests at (806) 291-3765. Documentation of a disability must accompany any request for accommodations.

Assessment of Student Achievement:

There are 4 components to the final grade in this course.

1. **Homework Exercises:** You have homework exercises that must be completed for each section that we cover in the course. You will complete those online through the MyMathLab Course Interface. When you open the MyMathLab links in Blackboard, you will be able to click on Homework and view your homework exercises. You are allowed to work on each homework problem until you get it right.
2. **Weekly Quizzes:** By the end of each week of the course you will be required to complete an online quiz covering the sections from that week. The deadline for completing this quiz will be midnight (CST) on Sunday, each week. You can take the quiz up to *FIVE times* and your highest score will be counted. Each time you take the test, the questions will be randomly generated, but of the same type.
3. **Exams:** During the course, there will be two major exams: a Midterm and a Final. Each test will cover half of the course. Both of these tests are to be proctored. This can be done at a Wayland campus, an approved testing center, or through a remote proctoring system called Examity. They will be paper and pencil tests which will be mailed to your instructor for grading.
4. **Lecture Video and Notes:** You will be required to watch the videos for this course and fill in the lecture notes for each section. This will be verified at each of the proctored exams. You will be required to bring it with you to these tests, although you cannot use it while taking the exam.

Grade Calculation:

Homework	20%
Weekly Quizzes	25%
Exams	50%
Lecture Video and Notes:	5%

A: 90 – 100

B: 80 – 89

C: 70 – 79

D: 60 – 69

F: Below 60

Students shall have protection through orderly procedures against prejudices or capricious academic evaluation. A student who believes that he or she has not been held to realistic academic standards, just evaluation procedures, or appropriate grading, may appeal the final grade given in the course by using the student grade appeal process described in the Academic Catalog. Appeals may not be made for advanced placement examinations or course bypass examinations. Appeals are limited to the final course grade, which may be upheld, raised, or lowered at any stage of the appeal process. Any recommendation to lower a course grade must be submitted through the Vice President of Academic Affairs to the Faculty Assembly Grade Appeals Committee for review and approval. The Faculty Assembly Grade Appeals Committee may instruct that the course grade be upheld, raised, or lowered to a more proper evaluation.

Course Outline:

To understand and apply the following concepts:

Rational Expressions, Functions, and Equations

- Rational Expressions and Functions: Multiplying and Dividing
- Adding and Subtracting Rational Expressions
- Complex Rational Expressions
- Division of Polynomials
- Synthetic Division and the Remainder Theorem
- Rational Equations
- Formulas and Applications of Rational Equations
- Modeling Using Variation

Radicals, Radical Functions, and Rational Exponents

- Radical Expressions and Functions
- Rational Exponents
- Multiplying and Simplifying Radical Expressions
- Adding, Subtracting, and Dividing Radical Expressions
- Multiplying with More Than One Term and Rationalizing Denominators
- Radical Equations
- Complex Numbers

Quadratic Equations and Functions

- The Square Root Property and Completing the Square
- The Quadratic Formula
- Quadratic Functions and Their Graphs
- Equations Quadratic in Form
- Polynomial and Rational Inequalities

Exponential and Logarithmic Functions

- Exponential Functions
- Composite and Inverse Functions
- Logarithmic Functions
- Properties of Logarithms
- Exponential and Logarithmic Equations
- Exponential Growth and Decay; Modeling Data

Conic Sections and Systems of Nonlinear Equations

- Distance and Midpoint Formulas; Circles
- The Ellipse
- The Hyperbola
- The Parabola; Identifying Conic Sections
- Systems of Nonlinear Equations in Two Variables

Sequences, Series, and the Binomial Theorem

- Sequences and Summation Notation
- Arithmetic Sequences
- Geometric Sequences and Series

Course Schedule (All times are for the Central Time Zone, so plan accordingly)**Week 1: Feb 25 – Mar 3**

Videos and Notes for Ch. 5 and Sections 6.1 – 6.2
Homework Exercises Ch. 5 and Sections 6.1 – 6.2
Weekly Quiz covering Ch. 5 and Sections 6.1 – 6.2
Due at 11:59 p.m., Monday, Mar 4

Week 2: Mar 4 – Mar 10

Videos and Notes for Sections 6.3, 6.4, 6.6
Homework Exercises 6.3, 6.4, 6.6
Weekly Quiz covering 6.3, 6.4, 6.6
Due at 11:59 p.m., Monday, Mar 11.

SPRING BREAK - NO WORK DUE**Week 3: Mar 18 – Mar 24**

Videos and Notes for Sections 6.7, 6.8, 7.1
Homework Exercises 6.7, 6.8, 7.1
Weekly Quiz covering 6.7, 6.8, 7.1
Due at 11:59 p.m., Monday, Mar 25.

Week 4: Mar 25 – Mar 31

Videos and Notes for Sections 7.2 – 7.4
Homework Exercises 7.2 – 7.4
Weekly Quiz covering 7.2 – 7.4
Due at 11:59 p.m., Monday, Apr 1

Week 5: Apr 1 – Apr 7

Videos and Notes for Sections 7.5 – 7.7
Homework Exercises 7.5 – 7.7
Weekly Quiz covering 7.5 – 7.7
Due at 11:59 p.m., Monday, Apr 8

Week 6: Apr 8 – Apr 14

Videos and Notes for Sections 8.1, 8.2, 8.3
Homework Exercises 8.1, 8.2, 8.3
Weekly Quiz covering 8.1, 8.2, 8.3
Due at 11:59 p.m., Monday, Apr 15

Week 7: Apr 15 – Apr 21

Videos and Notes for Sections 9.1, 9.2
Homework Exercises 9.1, 9.2
Weekly Quiz covering 9.1, 9.2
Due at 11:59 p.m., Monday, Apr 22

**Midterm Exam: Paper and Pencil exam (Proctored)
(Covers Chapters 6 – 8.3)****This needs to be completed by Tuesday, Apr 23.****Week 8: Apr 22 – Apr 28**

Videos and Notes for Sections 9.3 -- 9.5
Homework Exercises 9.3 -- 9.5
Weekly Quiz covering 9.3 -- 9.5
Due at 11:59 p.m., Monday, Apr 29

Week 9: Apr 29 – May 5

Videos and Notes for Sections 10.1 – 10.4
Homework Exercises 10.1 – 10.4
Weekly Quiz covering 10.1 – 10.4
Due at 11:59 p.m., Monday, May 6

Week 10: May 6 – May 12

Videos and Notes for Sections 11.1 – 11.3
Homework Exercises 11.1 – 11.3
Weekly Quiz covering 11.1 – 11.3
Due at 11:59 p.m., Monday, May 13

Week 11: May 13 – May 18

Review for Final
No assignments

**Final Exam: Paper and Pencil exam (Proctored)
(Covers Chapters 9 – 11)****This needs to be completed by Saturday, May 18**

Important Details: READ CAREFULLY!

Online Lecture Notes

As part of this course, you will watch the series of lecture videos and fill in the lecture notes. The proctor that you use for your midterm and final will verify that you have filled in the lecture note book. The lecture notebook is available from the bookstore or for download from Blackboard.

The videos posted in the Blackboard site. You will definitely need a broadband internet connection to watch the videos online. And if you download the lecture notes, ***you will need to print them to fill them in.*** As I mentioned, your proctor for your midterm and final will confirm that you have filled them out so be sure to take them with you to the proctored exams. ***If you have any problems, please email your instructor immediately!***

Proctored Midterm and Final

Both the Midterm and the Final are paper and pencil tests and must be administered by a Wayland-approved proctor.

Proctors at Wayland Campuses

If you live in a city with a Wayland campus, you must take the tests on that campus, so you do not need to submit a proctor request form. However, you should contact the campus the week before your test to arrange a date and time for you to take the test, to find out where the test will be administered, and to give them the course number (MATH1304) and instructor name (Dr. S. Franklin).

For the Plainview campus, contact the WBUOnline offices at 806-291-3740.

For external campuses, see the listing at http://www.wbu.edu/about_wayland/campus_locations/ for contact information.

Non-Wayland Personnel as Proctors

If you cannot take the tests on a Wayland campus, you must have your proctor approved by WBUOnline before they can administer the tests. The proctor must be approved every term (but only once per term) even if they have proctored tests for Wayland in past terms. Commonly used proctors are librarians holding a Master of

Library Sciences, authorized employees at U.S. Military Education centers, and college testing centers (like Sylvan Learning). See the proctor request form for more details.

The proctor information is located online. The link to the form is at the bottom of the page.

<https://www.wbu.edu/wbu-online/current-students/proctored-exams.htm>

Once the form is filled out, the proctor will receive an email requesting they provide certain information for verification. When the information has been provided, WBUOnline will approve or deny the request and will notify both the student and the proctor by email. **This entire process must be completed at least a week before the Midterm.** Do not forget to contact the proctor the week before the test to arrange a date and time and location (and to let them know the course number and instructor name).

Please email me with any questions you may have:

Dr. Franklin's email: franklins@wbu.edu