

## PRE-CALCULUS with TRIGONOMETRY MTH 166-35

### INSTRUCTOR INFORMATION

Name: Dr. Pablo Chalmeta  
Email: [pchalmeta@nr.edu](mailto:pchalmeta@nr.edu)  
Website: [www.nr.edu/chalmeta](http://www.nr.edu/chalmeta)  
Phone: 540-674-3600, ext. 4266  
Office: Godbey 48, Mall 115A  
Office hours: Posted in Blackboard

### **IMPORTANT:**

- The recommended browser to use with the current version of Blackboard is Mozilla Firefox. Other browsers are inconsistent in their performance with Blackboard. When taking tests or quizzes, USE a wired connection.
- Check your VCCS email regularly and respond/keep in touch with your instructor.

### COURSE DESCRIPTION

Description: Presents college algebra, analytic geometry, trigonometry, and algebraic exponential, and logarithmic functions.

Prerequisite: A placement recommendation for MTH 166 and Algebra I, Algebra II, and Geometry or equivalent. (Credit will not be awarded for both MTH 163 and MTH 166.)

Credits: 5  
Submissions: 1 per lesson  
Assessments: 7 + Introductory Quiz  
Proctored Assessments: 7  
Online Activities: Required

### COURSE MATERIALS

**Textbooks:** College Algebra. 3/e Corrected Edition July 2013 Stitz and Zeager.

Book available free: <http://stitz-zeager.com/>

Trigonometry by Pablo Chalmeta

(available for free here: [http://www.nr.edu/chalmeta/trigonometry/Trigonometry\\_book.pdf](http://www.nr.edu/chalmeta/trigonometry/Trigonometry_book.pdf) )

**Software:** Lumen Online Homework: <https://ohm.lumenlearning.com>

**Calculator:** A scientific calculator is recommended. The testing centers on campus will provide TI-30X IIS calculators for you to use on the test. ONLY the testing center issued calculator will be allowed on the test, no exceptions.

**Note:** NRCC assumes no liability for virus, loss of data, or damage to software or computer when a student downloads software for classes.

*The Student's Guide to Distance Education* is available at <http://www.nr.edu/de/pdf/stuguide.pdf>.

## COURSE INFORMATION

**Prepared By:** Pablo Chalmeta

**Approved By:** Mrs. Sarah Tolbert-Hurysz

### A. INTRODUCTION

This is a Distance Education course designed specifically for those students whose learning styles are best served by providing instructional opportunities beyond the traditional classroom setting.

This course presents college algebra, matrices, algebraic, exponential and logarithmic functions, conic sections, and Trigonometric functions.

### B. COURSE OUTCOMES

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

1. Work with integral and rational exponents.
2. Work with radicals.
3. Simplify algebraic expressions.
4. Work with algebraic expressions.
5. Solve linear inequalities.
6. Be familiar with interval notation.
7. Solve linear equations and applications involving linear equations.
8. Solve absolute value equations and inequalities.
9. Solve non-linear inequalities. (polynomial and rational)
10. Solve quadratic equations.
11. Solve equations which are reducible to quadratic form.
12. Sketch the graph of linear equations.
13. Sketch the graph of polynomial equations.
14. Sketch the graph of rational equations.
15. Define relation and function.
16. Determine the domain and range of a function.
17. Evaluate functions.
18. Find the inverse of a one-to-one function.
19. Apply functions.
20. Determine zeros of polynomial functions using synthetic division and rational zeros theorem.
21. Work with composition of functions.
22. Approximate real zeros of a polynomial function.
23. Identify exponential functions.
24. Apply exponential functions.
25. Convert exponential equations to and from logarithmic equations.
26. Solve exponential equations.
27. Solve logarithmic equations.
28. Solve systems of equations using Gauss-Jordan Elimination.
29. Solve systems of equations involving second-degree equations

30. Perform partial fraction decomposition.
31. Identify the parts of a parabola.
32. Sketch the graph of a parabola.
33. Find the equations of a parabola, given conditions.
34. Identify the parts of an ellipse.
35. Sketch the graph of an ellipse.
36. Find the equations of an ellipse, given conditions.
37. Identify the parts of a hyperbola.
38. Sketch the graph of a hyperbola.
39. Find the equations of a hyperbola, given conditions
40. Perform translation of axes for conics.
41. Use degree and radian units to measure angles.
42. Place an angle in standard position on the axes.
43. Determine the reference angle for an angle in standard position.
44. Define the trigonometric functions.
45. Evaluate the trigonometric functional values for an angle in standard position.
46. Apply the inverse trigonometric functions to solve for particular angles.
47. Define the circular functions.
48. Graph the trigonometric functions.
49. Solve trigonometric equations.
50. Prove trigonometric identities
51. Use the law of sines to solve problems
52. Use the law of cosines to solve problems
53. Converting between Cartesian and polar coordinates
54. Graphing in polar coordinates

### C. COURSE CONTENT

This course presents college algebra, matrices, algebraic, exponential and logarithmic functions, conic sections, and Trigonometric functions.

### D. INSTRUCTIONAL PROCEDURES

**Testing:** Tests must be taken in the DE Testing Center in Martin Hall, at the NRV Mall Site, or through an approved proctor if you live outside the region or have a documented disability. Please take the tests on or before the scheduled dates to remain on track for successful completion of this course. **Refer to the Testing Information folder in Blackboard for more information about on and off campus testing.**

The tests are administered through the LumenOHM homework software. The test questions will be drawn from the homework. The testing centers on campus will provide TI-30X IIS calculators for you to use on the test. ONLY the testing center issued calculator will be allowed on the test, no exceptions.

Students can contact their instructor through a variety of avenues: E-mail, mail, phone, voice mail, face-to-face during office hours, or by appointment.

General announcements for the course will occur on an as-needed basis. Updates to course information and test solutions can be found in Blackboard <http://learn.vccs.edu>. Updates to course information will also be done through the course webpage at <http://www.nr.edu/chalmeta>

### **GRADING/EVALUATION**

**Introductory Quiz:** The introductory quiz tests your knowledge of course policies and procedures. It counts for 2% of your grade and may be taken anywhere without a proctor. **If you do not complete the introductory quiz in the first week of class you will be withdrawn for non-attendance under the Instructor Initiated Withdrawal policy.**

**Homework:** Giving your best effort on homework is the single best thing you can do to help your mathematics. As such, the homework submitted through the Lumen OHM software will count for a significant portion of the grade (18%). The Tutoring Connection on the main campus also has qualified tutors who can work with you on a regular basis.

**Tests.** There will be five (5) tests administered through the LumenOHM homework software. There will be no make-up tests. Any missed test will receive the score of "0". See Final Exam below. Tests may be taken early. *The average on all tests will count as 60% of the course grade.*

**Final Exam.** There will be one comprehensive final given during finals week. The score on the final will replace the lowest test score (including any missed test) if that will improve your final average. *The final will count as at least 20% of the course grade.*

**Calculator:** A scientific calculator is recommended. The testing centers on campus will provide TI-30X IIS calculators for you to use on the test. ONLY the testing center issued calculator will be allowed on the test, no exceptions.

The final grade for the course will be determined as follows:

Description	Points
Written Tests (5)	60%
Introductory Quiz	2%
Homework	18%
Final Exam	20%
<b>Total:</b>	<b>100%</b>

Grading Scale:

Grade	Final Average
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

#### **NOTES on grading and tests:**

1. If the school is closed on a test day, then the test will be due on the first day the school opens.

2. Keep in mind that you might hit a trouble spot somewhere, so you should **MOVE AS FAST AS YOU COMFORTABLY CAN, BUT AS SLOWLY AS YOU NEED**, in order to meet the deadlines for the tests. The tests **MUST** be taken on or before the scheduled dates; however, you are encouraged to “work ahead.”
3. The testing centers on campus will provide TI-30X IIS calculators for you to use on the test. **ONLY** the testing center issued calculator will be allowed on the test, no exceptions.
4. I do not curve grades. I do not “give” grades. You earn what you get, so plan to work accordingly.

#### **E. EMAIL POLICY**

If you send me an e-mail, you **MUST** use your VCCS issued email address and include a **descriptive** subject line. Please remember to use complete sentences and follow the rules of grammar. The [Purdue OWL website \(click\)](#) has excellent information about creating a professional email. **READ IT**. Do not expect a prompt reply to your e-mails concerning last minute questions about an exam the next day. I will respond to your email within 24 hours.

#### **F. WITHDRAWAL POLICY**

##### **Student Initiated Withdrawal Policy**

A student may drop or withdraw from a class without academic penalty during the first sixty percent (60%) of a session. For purposes of enrollment reporting, the following procedures apply:

- a. If a student withdraws from a class prior to the termination of the add/drop period for the session, the student will be removed from the class roll and no grade will be awarded.
- b. After the add/drop period, but prior to completion of sixty percent (60%) of a session, a student who withdraws or is withdrawn from a course will be assigned a grade of "W." A grade of "W" implies that the student was making satisfactory progress in the class at the time of withdrawal, that the withdrawal was officially made before the deadline published in the college calendar, or that the student was administratively transferred to a different program.
- c. After that time, if a student withdraws from a class, a grade of "F" will be assigned. Exceptions to this policy may be made under documented mitigating circumstances if the student was passing the course at the last date of attendance.

A retroactive grade of "W" may be awarded only if the student would have been eligible under the previously stated policy to receive a "W" on the last date of class attendance. The last date of attendance for a distance education course will be the last date that work was submitted.

Late withdrawal appeals will be reviewed and a decision made by the Coordinator of Admissions and Records.

**Instructor Initiated Withdrawal**

Since attendance is not a valid measurement for Distance Education (DE) courses, a student may be withdrawn due to non-performance. A student should refer to his/her DE course plan for the instructor's policy.

In accordance with the No-Show Policy, a student who has not attended class or requested/accessed distance learning materials by the last day to drop the class and receive a refund must be withdrawn by the instructor during the following week. Students who have not posted ALL materials by the last day to drop the class and receive a refund must be withdrawn by the instructor during the following week. No refund will be applicable.

The student will be notified of the withdrawal by the Admissions and Records Office. An appeal of reinstatement into the class may be approved only by the instructor.

The instructor will withdraw students who have not completed ALL assignments on Blackboard by the last day to receive a "W".

**If you do not have a passing grade by the drop date, I may withdraw you from the class.**

**No-Show Policy**

A student must either attend face-to-face courses or demonstrate participation in distance learning courses by the last date to drop for a refund. A student who does not meet this deadline will be reported to the Admissions and Records Office and will be withdrawn as a no-show student. No refund will be applicable, and the student will not be allowed to attend/participate in the class or submit assignments. Failure to attend or participate in a course will adversely impact a student's financial aid award.

**G. CHEATING/PLAGIARISM POLICY**

A grade of zero will be awarded to any writing assignments or tests that show cheating or plagiarism. To plagiarize is "To use and pass off as one's own the ideas or writings of another." (Definition adapted from the American Heritage Dictionary.) Remember that plagiarism includes lifting words or ideas from Internet sites, as well as copying from print sources.

**H. DIVERSITY STATEMENT**

The NRCC community values the pluralistic nature of our society. We recognize diversity including, but not limited to, race, ethnicity, religion, culture, social class, age, gender, sexual orientation and physical or mental capability. We respect the variety of ideas, experiences and practices that such diversity entails. It is our commitment to ensure equal opportunity and to sustain a climate of civility for all who work or study at NRCC or who otherwise participate in the life of the college.

New River Community College does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Dr. Mark C. Rowh, Vice President for Workforce Development and External Relations, 217 Edwards Hall, 540-674-3600, ext. 4241.

I. **DISABILITY STATEMENT**

If you are a student with a documented disability who will require accommodations in this course, please register with the Center for Disabilities Services located in the Advising Center in Rooker Hall for assistance in developing a plan to address your academic needs.