College of Science and Health
Department of Mathematics
Course Syllabus

1. <u>**Title of Course, Course Number and Credits:**</u>
   College Algebra – Math 1150   3 credits

2. • Department Telephone number: 720-2158
   • Secretary's E-mail address: garbowsky@wpunj.edu

3. <u>**Semester offered:**</u>
   Winter 2021 (December 28, 2020- January 17, 2021)

4. <u>**Faculty member's name, telephone number and e-mail address:**</u>
   Faculty Name: Dr. Valentina Vega
   E-mail address: vegavegliom@wpunj.edu
   Telephone No.: (973) 720-2376

5. <u>**Required Text:**</u>
   College Algebra and Trigonometry (loose-leaf binder) PLUS MyMathLab; Ratti-McWaters 3rd edition.
   (Students can also by the e-book with MyMathLab).
   Note: **MyMathLab access code is required.**

6. <u>**Description of Course:**</u>
   A comprehensive study of algebraic functions and their properties. Topics include the real number system, exponents and radicals, solving equations and inequalities, functions and their graphs, polynomial functions and rational functions.

7. <u>**Course Prerequisites:**</u>
   Math 1060 or Basic Skills Placement

8. <u>**Course Objectives:**</u>
   To prepare students for precalculus by strengthening their understanding of algebraic topics and their use of algebraic techniques. To develop and enhance the skills necessary for solving algebraic problems analytically.

9. <u>**Student Learning Outcomes.**</u>
   Students will be able to:

   • Work analytically with algebraic expressions involving exponents, the factoring of polynomials and the simplification of rational quantities.

   • Solve linear and nonlinear equations and inequalities algebraically.

   • Understand and express the definition of a function and the classification of functions.

   • Graph and transform linear, polynomial and rational functions.

   • Critically analyze characteristics of polynomial and rational functions.

   • Effectively express algebraic concepts in presenting solutions to algebraic problems.

   • Locate algebraic quantities in applied problems and use the relevant information to solve the problems.

10. **Topical Outline of the Course Content:**
    1. The Real Number System
        - Real Numbers and their Properties
        - Exponents and Radicals
        - Absolute Value
        - Polynomials and Factoring
        - Rational Expressions
    2. Solving Equations and Inequalities
        - Linear Equations
        - Quadratic Equations
        - Complex Numbers
        - Solving Other Types of Equations Algebraically
        - Linear Inequalities
        - Polynomial and Rational Inequalities
        - Equations and Inequalities Involving Absolute Value
    3. Functions and Their Graphs
        - The Cartesian Coordinate System
        - Definition of a Function and Function Notation
        - Graphs of Functions and The Vertical Line Test
        - Linear Transformations of Graphs (Shifting, Reflecting and Stretching)
        - Linear Functions and Equations of Lines
        - Solving Systems of Linear Equations in Two Variables
        - Operations on Functions
    4. Polynomial and Rational Functions
        - Polynomial Functions
        - Graphs of Polynomial Functions
        - Zeros of Polynomial Functions and The Fundamental Theorem of Algebra
        - Rational Functions and Asymptotes
        - Graphs of Rational Functions

11. **Teaching Methods and Student Learning Activities:**
    This course is taught entirely on-line. The course consists of a series of lectures that will be posted on Bb as .pdf files and will be available to you as the semester proceeds. After you study each lesson and corresponding book section, you should attempt to do the homework problems that will be posted on MyMathLab. Assignments are created to better understand and practice the material, and include different degrees of difficulty. All problems have a purpose, so please attempt them all and do not hesitate to contact me via email if you have any questions. There is also a discussion board on Blackboard where you can discuss the material with the instructor and amongst yourselves. The instructor will be online on a regular basis to address the questions posted there. The course material will take some time to learn and understand. **Do not wait until the last minute to do the assignments.**

12. ***Methods of Student Assessment (Student Learning Outcomes)***

- Two chapter tests.
- A final examination.
- Homework assignments, MyMathLab course ID: **vega-veglio15291**

13. ***Course Expectations:***

Students are expected to login to Blackboard and learn the materials posted and then complete the assignments by the due date. **Due dates for assignments will not be extended and students are expected to complete their assigned work in time**

TESTS: Each test is cumulative. Each test will be posted on MyMathLab and will be available for three (3) days. **You can take the exam ANY of the available days BUT once started you need to finish it in one take.** You will have two (2) hours to complete each test after you start it.
If you do not take the test during the three-day period, you will receive a zero for that test. Should an emergency occur, I expect a phone call or email **BEFORE** the test explaining the emergency. **All emergencies must be documented** (University Policy).

HOMEWORK: This is the most important tool for your success in this course. You should work on homework problems until they are completely correct and you understand them. Email me or post your questions on the discussion boards to clarify your doubts about the material. **To register to the course in the MyMathLab system you need the following course ID : vega-veglio15291**

14.

Grading and other Assessment Methods:
Exam 1: 25 %
Exam 2: 25 %
Final Exam: 30%
Homework: 20%

The final letter grade is assigned as follows:

| >= 90%: A | 88 - 89%:A- | 85 - 87%:B+ | 80 - 84%:B | 78 - 79%:B- | 75 - 77%:C+ |
| 70 - 74%:C | 68 - 69%:C- | 65 -67%:D+ | 60 - 64%: D | < 60%:F | |

15. ***Academic Honesty:***
Academic honesty is highly valued at online courses just as it is on William Paterson University campus. You must always submit work that represents your original words or ideas. If any words or ideas are used that do not represent your original words or ideas, you must cite all relevant sources. You should also make clear the extent to which such sources were used. Words or ideas that require citations include, but are not limited to, all hardcopy or electronic publications, whether copyrighted or not, and all verbal or visual communication when the content of such communication clearly originates from an identifiable source. All submissions fall within the scope of words and ideas that require citations if used by someone other than the original author.

Academic dishonesty in an Online learning environment could involve:
• Having a tutor or friend complete a portion of your assignments
• Having a reviewer make extensive revisions to an assignment
• Copying work submitted by another student to a public class meeting
• Using information from online information services without proper citation

Plagiarism is a serious form of academic dishonesty. Please read the UNIVERSITY REGULATIONS AND DISCIPLINARY PROCEDURES FOR STUDENTS, section II, B q
(http://ww2.wpunj.edu/admroot/adminsrv/hr/facultyhandbook2000/studentcodeofconduct.htm)