

NOUVEL CATHOLIC CENTRAL HIGH SCHOOL

ALGEBRA II (FOUR SEMESTER CLASS)

COURSE SYLLABUS 2017-2018

<p>COURSE DESCRIPTION:</p>	<p>The aim of this course is to enable the learner to understand algebraic representations, functions and graphs and apply them in real-world settings. The student who successfully completes this class with a good understanding of the concept will be able to pass the college entrance math exam and avoids starting at the lower level math classes at the university setting. The four semester Algebra II course covers the same content as the two semester Algebra II course except at a slower pace. The learner taking the four semester Algebra II course will need a parental permission to create a personal curriculum that will allow the student to receive 2 credits for Algebra II.</p> <p>Duration: Two Year Course</p> <p>Grades offered: 11 and 12</p> <p>Prerequisites: Algebra I and Geometry</p>
<p>MAJOR COURSE GOALS:</p> <p>➤ See Common Core Standards on the last page.</p>	<ol style="list-style-type: none">1. The learner will use appropriate mathematical techniques, symbols, and formulas; use and apply counting techniques; calculate measures of center; and construct graphs appropriate to given data.2. The learner will analyze and model sequences.3. The learner will simplify, graph, analyze, solve, and model piecewise, quadratic, polynomial, radical and rational functions.4. The learner will apply properties of exponential and logarithmic functions in simplifying expressions, solving equations, graphing, analyzing, and modeling real-life situations.5. The learner will simplify, graph, analyze, and model trigonometric functions.6. The learner will identify parent functions and describe transformations.7. The learner will develop and apply the concepts of probability to model and solve real-life situations.8. The learner will use the basic techniques of statistical analysis to organize, present, interpret, and analyze data.

<p>COURSE ASSESSMENT PLAN:</p>	<p>QUIZZES/TESTS: The learner should be able to perform well on quizzes and tests, if the learner pays attention in class, studies notes regularly and completes homework independently.</p> <ul style="list-style-type: none"> • Quizzes will be given every two weeks. • There will be a test after completion of each chapter. • If the student is absent (excused) on the day a test is given, he/she will make it up upon his/her return to class. • Assignments including tests/quizzes that are missed due to unexcused absence(s) can't be made up. • Any assignment that is not made up within one week from the due date will receive no credit. It is the student's responsibility to make up his/her missing work within this time frame. <p>EXTRA CREDIT:</p> <ol style="list-style-type: none"> 1. Extra credit problems will be included occasionally on tests, quizzes or homework. Try them! 2. Getting 87% or higher on any tests/quizzes will earn u a sticker that can redeemed as extra credit. 3. The student should not ask for an extra credit assignment to bring up his/her grade at the end of marking period or semester.
<p>SUPPLIES AND MATERIALS NEEDED:</p>	<p>The student is required to bring the following to class every day:</p> <ul style="list-style-type: none"> • 1 ½ inch 3 ring binder to keep and organize lecture notes, homework/activities, graded tests/quizzes and etc. • Loose leaf and graph paper • Pencils , no pens please • Straight edge • Textbook: ALGEBRA 2 (needs to be covered)
<p>EXTRA HELP:</p>	<p>Additional classroom teacher assistance is provided to the student before and after school.</p> <p>Never be afraid to ask for help. Remember that your success depends on you and your effort.</p>

INSTRUCTIONAL PHILOSOPHY:	<p>Methodology is through lecture, discussion and teacher directed activities. The instructor will assist each individual to become successful; however, the student should be willing to perform his/her best as well. The learner will succeed in this class and earn a good grade by participating in class enthusiastically, by asking questions when he/she doesn't understand a problem, by completing homework on time and studying regularly and by getting good grades on tests and quizzes.</p>
INSTRUCTIONAL ACTIVITIES AND COURSE PROJECTS:	<p>There will be a combination of individual, group and partner work in this class to challenge all students towards their absolute potential. After presenting a lesson, the learner will have time at the end of each class time to try out assigned problems and ask questions if necessary. Students who use their time wisely will be able to finish most of the assigned problems in class. All assigned problems for a particular lesson are due the day after that lesson is presented.</p> <p>The learner will also do mini projects and class investigations in order to achieve the most out of his/her learning experience.</p> <p>These projects/investigations may include:</p> <ul style="list-style-type: none"> • Describing the end behavior of a polynomial function using the Leading Term Test (#1 and #3 course goals) <ul style="list-style-type: none"> -The student will be able to classify any polynomial function of the form $p(x) = a_n x^n + a_{n-1} x^{n-1} + a_{n-2} x^{n-2} + \dots + a_1 x + a_0$ into four cases if $a_n x^n$ is the leading term of this polynomial function. <ul style="list-style-type: none"> Case 1: If n is even, and $a_n > 0$ Case 2: If n is even, and $a_n < 0$ Case 3: If n is odd, and $a_n > 0$ Case 4: If n is odd, and $a_n < 0$ • Graphing a polynomial function without using a graphing calculator (#3 course goals) <ul style="list-style-type: none"> -The student will be able to graph a polynomial function by determining the end behavior of a function using the leading term test, finding the zeros of the function, using the zeros (x-intercepts) to divide the x-axis into intervals and choosing a test point to determine the sign of all function values in that interval and etc.

1. HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3, HSF-IF.C.7
2. HSF-IF.A.3, HSF-BF.A.2, HSF-LE.A.2, HSA-SSE.B.4, HSF-IF.A.3, HSF-BF.A.2, HSF-LE.A.2
3. HSF-IF.B.4, HSF-IF.C.9, HSA-APR.B.3, HSA-CED.A.2, HSF-IF.B.6, HSF-BF.A.1a, HSS-ID.B.6a, HSA-SSE.A.2, HSA-REI.B.4b, HSF-IF.C.8a, HSF-IF.C.7c, HSF-IF.C.7b, HSN-BF.B.3, HSA-REI.A.1, HSA-REI.A.2, HSA-APR.D.6, HSF-BF.B.3, HSA-CED.A.4
4. HSN-RN.A.1, HSN-RN.A.2, HSF-IF.C.7e, HSF-BF.B.4a, HSF-LE.A.4, HSA-CED.A.2
5. HSF-IF.C.7e, HSF-BF.B.3, HSF-TF.B.5, HSF-BF.A.1a
6. HSF-BF.B.3, HSF-IF.C.7c
7. HSS-CP.A.1, HSS-CP.A.2, HSS-CP.A.3
8. HSS-ID.A.4, HSS-IC.A.1, HSS-IC.A.2, HSS-IC.B.3