

# HIGH SCHOOL CURRICULUM PROPOSAL

PROPOSED COURSE NAME Honors Algebra II

OLD COURSE NAME (if applicable)

SUBMITTED BY Dustin Berthold

Underline the Appropriate Item: New Course / Major revision to an existing course

Implementation Date: Fall 2013

Person(s) who will write the Curriculum: Dustin Berthold

Respond to the following: Jacob Hubert (NBHS Principal)

Duration: 1 academic year

Open to:

Prerequisites: A in Geometry, B in Geometry & teacher recommendation

Pass/Fail Option: NO

Credit: Yes

**If the course meets a graduation requirement, which one does meet?**

This is counted as one of the three years of math required to graduate

**Where does this course fit into department sequence?**

After Geometry, before Pre-Calculus/Honors, Pre-Calculus, AP/GeneralStatistics.

**What is the potential impact of this course on the other department offerings?**

This class will greatly increase critical thinking at the Algebra II level. Questions are posed that should also challenge and have students reflect their thoughts and previous materials covered.

**Course Description**

This course is an accelerated course in Algebra II for the student with greater aptitude and interest in math. Topics of Algebra II are studied in much greater depth and intensity using a variety of mathematical methods. These topics include: systems of equations, matrices, linear and quadratic functions, polynomials, conics, logarithms, sequences and series, and probability. Further development of critical thinking skills is stressed. This course prepares the student for Pre-Calculus. Students are required to bring a TI-83 or TI-84 graphing calculator to class on a daily basis.

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## **Special Notes (i.e., extended periods, team teaching, etc.)**

In addition, Mr. Berthold has the entire curriculum/quizzes/tests and finals already prepared. There are also Targets with clear objects that greatly assist in student learning.

## **RATIONALE, OBJECTIVES, STRATEGIES**

### **1. Course Rationale**

#### **A) What is the evidence of student need for this course?**

To push and challenge our higher thinking students. Though a majority of students in Algebra II find the material appropriate, there are some gifted who do exceptionally well and with ease. It is our hope to challenge these students to a higher order. In addition, this will better prepare for Honors Pre-Calculus or AP Statistics.

#### **B) What departmental needs/goals would this course meet?**

If we implement an Honors Geometry, this would greatly assist the Honors Geometry, Honors Algebra II and Honors Pre-Calculus route for gifted students. In turn, this should increase our ACT and SAT scores.

#### **C) What institutional needs/goals would this course meet?**

This should increase a higher average on ACT and SAT scores in Math.

### **2. Course Objectives: What will each student learn and know?**

How to critically use mathematics and develop their own learning process. As a result, they are discovering the mathematical concepts through an intense and in depth approach.

### **3. What types of instructional strategies will be used in the class?**

We will use a variety of strategies to have mastery of concepts. Visual, auditory and kinesthetic learning will all be applied. Think pair-shares, group-work, assorted ways of movement while learning. deriving own problems. In-depth analysis & strategies and lecture (college).

### **4. What types of student assessment procedures will be used? How will the assessment be used to guide instruction?**

Exit Slips, Quizzes, Exams, and Homework. They are used to assist in how we continue future learning. A prime example is when students do well on an exit slip, we can move on to the next topic. If students are not grasping the material, we can spend additional time needed.

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**5. List resources needed and approximate costs to implement this course. Include staff development, materials, textbooks, additional staff, equipment, technology resources, facilities, and fees.**

NA

**Include any additional information pertinent to your course.**

Mr. Berthold already has taught this while student teaching and has lessons, quizzes, exams, projects and finals for the entire academic year. In addition, he has timeline calendars showing exactly what to cover when. The final item is a target-based packet for students to use as a review guide for every chapter.

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