

Integrated Mathematics II A/B

COURSE DESCRIPTION

Integrated Mathematics II A/B

This course begins by focusing on the extension of the number system. Students evaluate functions, touch on exponential functions, and explore the operations of polynomials. Next, nonlinear functions are covered before students complete a unit on factoring polynomials using various methods. The course continues with quadratic expressions, equations, and functions; comparing their characteristics and behavior to those of linear and exponential relationships from previous courses. As quadratic equations become more multifaceted, real and complex numbers are introduced to extend the set of rational numbers which can be used to solve quadratic equations. Students also explore the link between probability and data through conditional probability, two-way tables, and counting methods. Finally, this course challenges students to make connections between algebra and geometry as they study similarity, right triangle trigonometry and proofs, as well as circles with and without coordinates. Students are able to use coordinates to prove simple geometric theorems algebraically as well as analyze two- and three- dimensional figures. The content within this course allows students to practice problem solving and critical thinking as they attempt real-world scenario math problems.

COURSE OBJECTIVES

Throughout the course, you will meet the following goals:

- Demonstrate an understanding of functions and use functions to describe quantitative relationships
- Communicate effectively using graphic, numeric, symbolic, and verbal representations
- Students will solve geometric problems relating to triangles, circles, and solids
- Demonstrate an understanding of the relationship between real and non-real numbers
- Study the theory and application of probability.
- Solve and graph quadratic expressions and functions

COURSE SYLLABUS

STUDENT EXPECTATIONS

This course requires the same level of commitment from you as a traditional classroom course would. Throughout the course, you are expected to spend approximately 5–7 hours per week online on the following activities:

- Interactive lessons that include a mixture of instructional videos and tasks
- Assignments in which you apply and extend learning in each lesson
- Assessments, including quizzes, tests, and cumulative exams

Citizenship

Students are expected to conduct themselves in a responsible manner that reflects sound ethics, honor, and good citizenship. It is the student's responsibility to maintain academic honesty and integrity and to manifest their commitment to the goals of NUVHS through their conduct and behavior. Students are expected to abide by all NUVHS policies and regulations. Any form of academic dishonesty, or inappropriate conduct by students or applicants may result in penalties ranging from warning to dismissal, as deemed appropriate by NUVHS.

Communication

Throughout this course students will need to be in close contact with their instructor and fellow students. Students are expected to communicate via course message and electronic discussion boards. Therefore, students should plan on checking their course messages at least three times a week and participate in the discussion boards during the weeks they are live.

Instructors strongly encourage and welcome open communication. Clear, consistent, and proactive communication will ensure a successful experience in this course. It is the student's responsibility to notify the instructor immediately if and when a personal situation occurs that affects his/her performance in this class. Being proactive with communication will result in a quick solution to any problems that may occur.

COURSE SYLLABUS

GRADING POLICY

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

Grading Category	Weight
Lessons Quizzes	20%
Unit Tests	30%
Cumulative Exams	20%
Assignments	20%
Projects	10%

SCOPE AND SEQUENCE

When you log into Edgenuity, you can view the entire course map—an interactive scope and sequence of all topics you will study. The units of study are summarized below:

Unit 1: Extending the Number System

Unit 2: Nonlinear Functions

Unit 3: Polynomial Expressions

Unit 4: Quadratic Functions and Modeling

Unit 5: Expressions and Equations: Part One

Unit 6: Expressions and Equations: Part Two

Unit 7: Applications of Probability

Unit 8: Similarity, Right Triangle Trigonometry, and Proof: Part One

Unit 9: Similarity, Right Triangle Trigonometry, and Proof: Part Two

Unit 10: Circles With and Without Coordinates

Unit 11: Two- and Three- Dimensional Figures

COURSE SYLLABUS

HOW YOU WILL BE GRADED

For critical thinking questions, there are no right or wrong answers. For example, a question on your thoughts on why you think people are shy is a pretty open-ended type of question. Grades will be based on the depth of personal insight you present. **Do not simply agree or disagree** with an insight question. We are looking for critical thinking and possibly a related personal experience with the question.

It is important to provide detailed answers for insight/opinion questions.

For review questions, you should be produce a more academic answer. For example, "What two categories are norms divided into?" This type of direct question requires a specific answer. Please use full sentences and proper grammar.

When submitting paragraphs, use these guidelines.

1. The first, second or last sentence contains the main idea and key words from the question or assigned topic.
2. Paragraph contains one to three explanatory sentences.
3. Paragraph contains two to four sentences about specific details related to question.
4. Details are colorful, interesting and appropriate.
5. Paragraph ends with a good closing sentence that refers to the main idea without repeating it.
6. Free of spelling and grammatical errors.

GRADE SCALE

The following grading scale will be used to determine your final letter grade.

Letter Grade	Percentage Earned
A	95%+
A-	90% - 94.9%
B+	87% - 89.9%
B	84% - 86.9%
B-	80% - 83.9%
C+	77% - 79.9%
C	74% - 76.9%
C-	70% - 73.9%
D+	67% - 69.9%
D	64% - 66.9%
D -	60% - 63.9%
F	59% and lower



COURSE SYLLABUS

EXPECTED SCHOOL-WIDE LEARNING RESULTS (ESLRs)

Engaged Learners

- Demonstrate self-directed learning skills such as time management, and personal responsibility through the completion of course requirements
- Develop an understanding of their own preferred learning styles to enhance their overall academic potential
- Incorporate effective and relevant internet and multimedia resources in their learning process to broaden their knowledge base

Critical Thinkers

- Effectively analyze and articulate sound opinions on a variety of complex concepts
- Illustrate a variety of problem-solving strategies that strengthen college preparation and workforce readiness
- Formulate a framework for applying a variety of technology and internet-based research to enhance information literacy and collaborative thinking

Effective Communicators

- Demonstrate awareness and sensitivity to tone and voice in multiple forms of communication
- Express concepts and ideas in a variety of forms
- Enhance communication skills through the use of media rich or other technology resources

Global Citizens

- Appreciate the value of diversity
- Understand the range of local and international issues facing today's global community
- Demonstrate awareness of the importance of cultural sensitivity and social responsibility in the 21st century