

LEARNING LAB

Learning Lab (080311) This one-term, elective course is intended as additional support for identified students who have not met the district's mathematics and/or reading standards and benchmarks and/or achieved proficiency on the Iowa Tests of Educational Development (ITED). Students will participate in focused activities to increase their basic skills in math, reading, and writing. Instruction includes direct instruction, computer-assisted learning, and self-selected reading. This course may be repeated. Students meeting specific criteria are required to take this class. **Offered at North High School only.**

Subject	Course Numbers	Units per course	Grade level offered				Prerequisites and related information
			9	10	11	12	
Learning Lab	080311		X	X	X	X	

MATHEMATICS

Subject	Course Numbers	Units per course	Grade level offered				Prerequisite and related information
			9	10	11	12	
Cognitive Tutor Algebraic Principles (2-term course)	202213 /202214	1	X	X			Students will be registered for this class based on need. Basic computer keyboarding skills are recommended
Algebraic Principles (2-term course)	203121 /203122	1	X	X			Students will be registered for this class based on need
Consumer Mathematics 1	201411	0.5		X	X	X	None
Consumer Mathematics 2	201421	0.5		X	X	X	None
Data Applications (2-term course)	209911 /209912	1		X	X	X	Consumer Math or Equivalent
Cognitive Tutor Algebra 1 (2-term course)	203113 /203114	1	X	X	X	X	Basic computer keyboarding skills are recommended
Algebra 1 (2-term course)	203111 /203112	1	X	X	X	X	None
Intermediate Mathematics (2-term course)	202211 /202212	1		X	X	X	Algebra 1 or CT Algebra 1
Geometry (2-term course)	203411 /203412	1	X	X	X	X	Algebra 1 or CT Algebra 1
Algebra 2 (2-term course)	204111 /204112	1		X	X	X	Geometry or consent of Department Chair
Discrete Mathematics (2-term course)	205411 /205412	1			X	X	Geometry and Algebra 2
Pre-Calculus (2-term course)	205311 /205312	1			X	X	Geometry and Algebra 2
AP Calculus (3-term course)	205811 /205812 /205813	1.5			X	X	Pre-Calculus
AP Statistics (3-term course)	206331 /206332 /206333	1.5			X	X	Algebra 2

Students should enroll each year in math classes which are suited to their abilities and interests. Students who are planning to continue their education after graduation from high school should consult the institution of their choice to determine what mathematics courses are required for admission.

Cognitive Tutor (CT) Algebraic Principles (202213/202214) This course is designed to improve the students' understanding of algebra readiness skills for their future success in Algebra 1. This course presents the algebra readiness curriculum in an alternative way: it combines state-of-the-art computer software with collaborative classroom activities. The software component, which represents 40% of the instructional time, allows students to work at their own pace using tools such as tables and models to represent and manipulate algebraic expressions and equations. The software immediately shows students whether their problem solving strategies and mathematical skills will be successful, allowing them to focus on correcting errors and developing mathematical skills that they find difficult. The text component allows students to collaborate with peers, to explore and solve real world problem scenarios, and to present solutions in class. There is an additional fee for materials.

MATHEMATICS (CONT)

Algebraic Principles (203121/203122) This course is designed to improve the students' understanding of algebra readiness skills for their future success in Algebra 1. Topics of study will include: Probability, Solving Equations and Inequalities, Data Analysis, Graphing on the Coordinate Plane, Solving Systems of Equations, Polynomials, and an Introduction to Geometry.

Consumer Mathematics 1 (201411) and Consumer Mathematics 2 (201421) This course is designed to meet the student's current consumer needs as well as anticipated future needs. Some topics covered are money management, automobile ownership, personal income, banking, taxes, insurance, investments, and purchasing of consumer goods. A Texas Instruments TI-83+ or TI-84 graphing calculator is recommended.

Data Applications (209911/209912) This course is designed so students will be able to construct, interpret and draw conclusions from charts, tables and graphs. They will be able to conduct simple experiments and interpret and communicate the outcomes. Students enjoy and profit from practical work, experiments, and other activities designed to give them practical experience in statistics. A Texas Instruments TI-83+ or TI-84 graphing calculator is recommended.

Cognitive Tutor (CT) Algebra 1 (203113/203114) This course presents an algebra curriculum that combines state-of the art computer software with collaborative classroom activities. The software component, which represents 40% of the instructional time, allows students to work at their own pace using spreadsheets, graphs, equation solvers, and other data organizing tools to solve algebraic problems. The text component, which extends the algebraic concepts developed in the software, allows students to collaborate with peers, to explore and solve real-world problem scenarios, and to present solutions to the class. There is an additional fee for materials. A Texas Instruments TI-83+ or TI-84 graphing calculator is recommended.

Algebra 1 (203111/203112) This course uses an equation solving approach to problem solving. It moves from concrete numerical concepts to abstract concepts. It becomes the language of advanced mathematics courses. A Texas Instruments TI-83+ or TI-84 graphing calculator is recommended.

Intermediate Mathematics (202211/202212) This course is designed for students who have completed Algebra, but are not prepared to enroll in geometry. Topics covered are: computational skills; algebraic skills such as solving equations, graphing, polynomials, quadratic equations; basic geometric concepts and measurement, and basic probability and statistics concepts. Students who are successful in this course should take Geometry the following year. A Texas Instruments TI-83+ or TI-84 graphing calculator is recommended.

Geometry (203411/203412) This course is an integrated course in plane and solid geometry. This course is designed for the development of logical and deductive reasoning through the study and analysis of facts pertaining to various two and three dimensional figures. A Texas Instruments TI-83+ or TI-84 graphing calculator is recommended.

Algebra 2 (204111/204112) This course reviews first year Algebra from a more advanced point of view with additional study in quadratic equations, systems of equations, and exponentiation. During the second term additional topics are studies in permutations, combinations, probability and progressions,, and a study of the real number system. A Texas Instruments TI-83+ or TI-84 graphing calculator is highly recommended.

Discrete Mathematics (205411/205412) This course is designed to lay the groundwork for mathematics applications in computer science, business and applied mathematics. It will help prepare students for non-technical careers which use modern technology. Matrices, determinants, probability, logic theory, graph theory and statistics will be used to create models for solving problems. A Texas Instruments TI-83+ or TI-84 graphing calculator is highly recommended.

Pre-Calculus (205311/205312) This course is a study of trigonometric functions, geometric concepts from the analytic view of algebraic procedures, functions and calculus underpinnings. Technology will be used for applications and problem solving. A Texas Instruments TI-83+ or TI-84 graphing calculator is highly recommended.

AP Calculus (205811/205812/205813) Advanced Placement Calculus is a three term course intended for students who have a thorough knowledge of college preparatory mathematics including algebra, geometry, and pre-calculus. The course includes limits, differentiation and integration with problem solving and applications. A Texas Instruments TI-83+ or TI-84 graphing calculator is highly recommended.

AP Statistics (206331/206332/206333) Advanced Placement Statistics is a three term course introducing students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. It emphasizes sound statistical thinking rather than routine procedures. Students will be exposed to several broad conceptual themes of Statistics such as exploring data, planning a study, modeling and anticipating patterns, and statistical inference. A Texas Instruments TI-83+ or TI-84 graphing calculator is highly recommended..