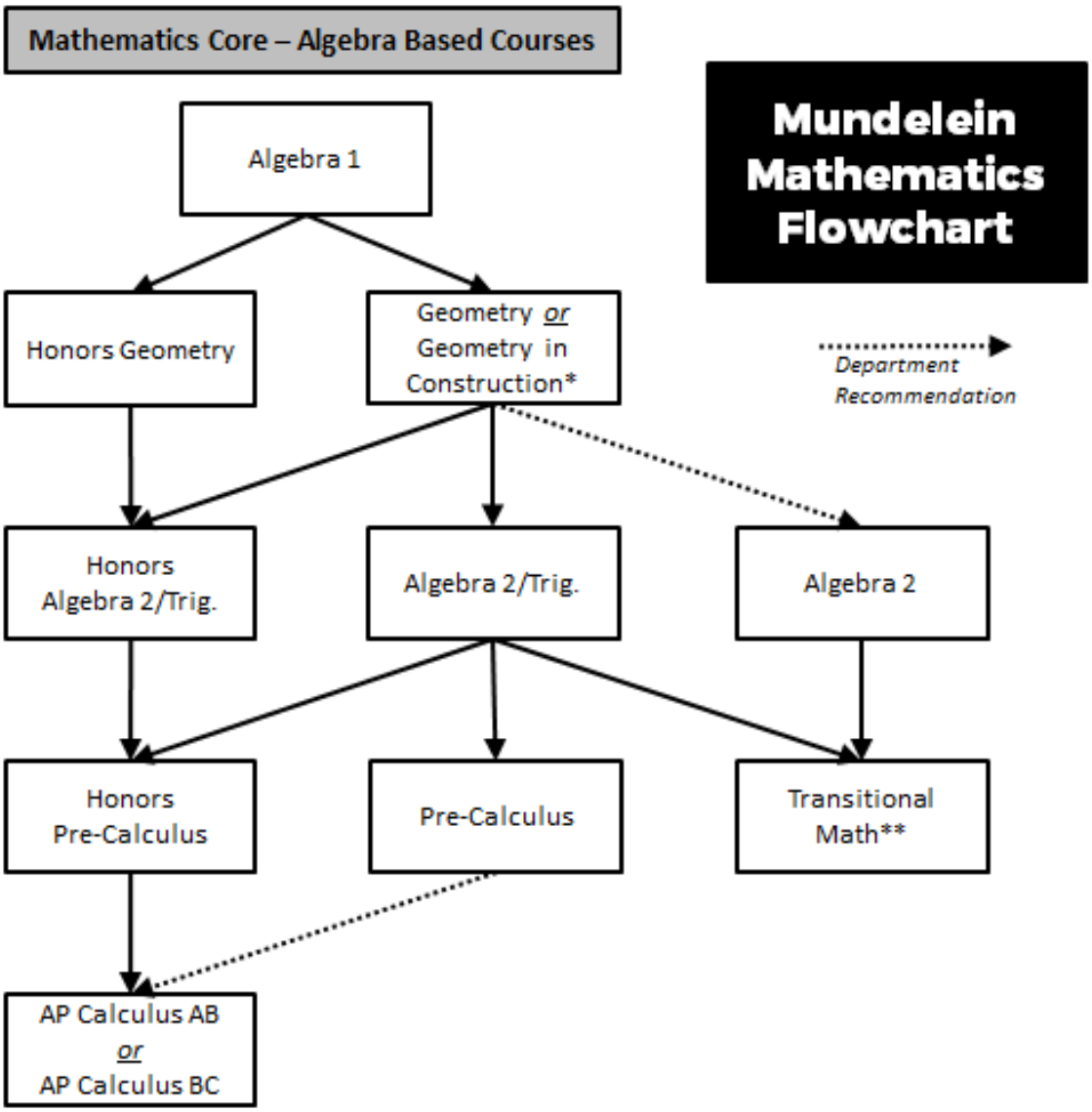
MATH			
COURSE	**CREDIT**	**OPEN TO**	**PREREQUISITE**
Principles of Math	1.0	9-10	Case manager recommendation
Introduction to Algebra	1.0	9-12	Case manager recommendation
Consumer Math*	1.0	10-12	Case manager recommendation
Algebra 1	1.0	9-12	Department recommendation
Geometry Seminar	1.0	9	Department recommendation
Geometry	1.0	9-12	Algebra 1
Geometry in Construction**	1.0	9-10	Algebra 1
Honors Geometry	1.0	9-10	Algebra 1
Algebra 2	1.0	10-12	Geometry and Department recommendation
Algebra 2/Trig.	1.0	10-12	Geometry
Honors Algebra 2/Trig.	1.0	9-11	Geometry
Transitional Math***	1.0	12	Algebra 2
Pre-Calculus	1.0	11-12	Algebra 2/Trig.
Honors Pre-Calculus	1.0	9-12	Algebra 2/Trig.
Probability and Statistics	1.0	11-12	Geometry
AP Statistics	1.0	11-12	Probability and Statistics
AP Calculus AB	1.0	10-12	Honors Pre-Calculus
AP Calculus BC	1.0	10-12	Honors Pre-Calculus
AP Computer Science Principles	1.0	10-12	Algebra 1
AP Computer Science A	1.0	10-12	AP Computer Science Principles and/or App Development and Coding

*This course satisfies the Consumer Education Graduation requirement.

**All students will have the ability to earn honors in this course. The teacher will review these requirements at the start of the school year.

***Successful completion of a transitional mathematics course for a high school graduate results in direct placement into postsecondary credit-bearing mathematics courses at all Illinois community colleges and accepting Illinois universities without a placement test. See Postsecondary and Workforce Readiness Act for more information.



Math Elective Statistics Courses***		Math Elective Computer Science Courses***	
Probability & Statistics	AP Statistics	AP Computer Science Principles	AP Computer Science A

** This course has an earned honors option for all students. The instructor will review these requirements at the start of the course.*

*** Successful completion (C or better) of a transitional mathematics course for a high school graduate results in direct placement into postsecondary credit-bearing mathematics courses at all Illinois community colleges and accepting Illinois universities without a placement test. See Postsecondary and Workforce Readiness Act for more information.*

**** As long as the prerequisite is met, these courses may be taken concurrently with other math courses.*

With department approval, students who take Algebra 1 as a freshman may choose to take Honors Geometry and Honors Algebra 2/Trig. concurrently during sophomore year in order to access our AP Calculus curriculum in their senior year.

PRINCIPLES OF MATH	This class is designed for students who need to build numerical

Prerequisite: Case Manager recommendation Open to: Grade 9-10 Length: 2 semesters Credits: 1.0 Course Number: MA0100	understanding and reasoning skills. It will focus on key foundation concepts that enable students to make connections while learning to think algebraically. Techniques will be learned to help multiply and divide one-digit, two-digit, and three-digit numbers. An introduction to fractions will be presented, including adding and subtracting fractions and/or mixed numbers with different denominators. Students will then use many of the same skills (addition, multiplication, etc.) with decimals. A calculator is recommended for the course.
INTRODUCTION TO ALGEBRA Prerequisite: Case Manager recommendation Open to: Grade 9-12 Length: 2 semesters Credits: 1.0 Course Number: MA0320	This class is designed to build pre-algebra skills through learning strategies, not memorizing. Students will have the ability to solve rate and ratio problems through the demonstration of visual representations. When exploring percentages, students will use additional visual representations to compare the percentage to the whole. This class is designed to build pre-algebra skills through the use of variables and graphing. By graphing, the students will build visual representations when solving for functions and linear relationships. Additionally, alternate strategies will be used to help students solve multi-step equations. The equation-solving process will be vital as students continue through their algebra and geometry classes. A calculator is recommended for the course.
CONSUMER MATH Prerequisite: Case Manager recommendation Open to: Grades 10-12 Length: 2 semesters Credits: 1.0 *This course satisfies the Consumer Education Graduation requirement.* Course Number: MA4030	Consumer Math is designed to meet the needs of students to develop abilities to make rational and informed decisions to lead successful lives in an independent world. It explains how to use mathematics in everyday situations involving money: salaries, purchases, credit, loans, household and personal expenses, car buying, insurance, savings, investments, retirement, etc. Whether it's balancing a checkbook, figuring sales commissions, or calculating how much extra it really costs to buy on credit. The concepts covered in this course can help anyone make the calculations quickly, easily, and accurately. This class satisfies the state requirement for Consumer Education
ALGEBRA 1 Prerequisite: Department recommendation Open to: Grades 9-12 Length: 2 semesters Credits: 1.0 Course Number: MA1030, MA1100, MA1200, MA1500	Algebra 1 is a first year algebra course designed for students to develop the basic terminology, skills, and concepts of algebra. Students will learn about linear, quadratic, and exponential functions by manipulating expressions, solving equations, and graphing. Inequalities, systems of equations, word problems, and applications will also be studied throughout the course. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested. This course is also offered in a bilingual (Spanish) format.
GEOMETRY SEMINAR Prerequisite: Department recommendation Open to: Grade 9	This class is designed to build pre-algebra skills through transformational geometry topics. Students will develop the ability to solve rate, ratio, and percentage problems through the demonstration of visual representations. This class will continue to build pre-algebra skills through the use of variables, graphing, and various geometry concepts. Through graphing,

Length: 2 semesters Credits: 1.0 Course Number: MA3050	the students will build visual representations when solving for functions and other linear relationships. Other topics such as congruence, similarity, and circles will be studied. A graphing calculator is suggested.
GEOMETRY Prerequisite: Algebra 1 Open to: Grades 9-12 Length: 2 semesters Credits: 1.0 Course Number: MA3030, MA3100, MA3200, MA3500	In this course, students will study transformational geometry to extend their knowledge of the geometry skills introduced in previous courses. Topics such as congruence, similarity, circles, and trigonometry will be studied. Deductive or logical reasoning, basic constructions and investigations will be used to prove ideas about the shapes and figures in the world. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested. This course is also offered in a bilingual (Spanish) format
GEOMETRY IN CONSTRUCTION* Prerequisite: Algebra 1 Open to: Grade 9-10 Length: 2 semesters Credits: 1.0 *This course has an earned honors option for all students. The instructor will review these requirements at the start of the course. Course Number: MA3150, IT2400	Geometry in Construction is an alternative, experiential-learning model approach to teaching/learning Geometry. This interdisciplinary course integrates geometry and construction topics through the building of significant construction projects. The objectives of this course are the same as the objectives in the traditional geometry course; the difference is the order of the objectives, and the contextualized nature of the lesson plans. Students will gain hands-on, real-world experience in different areas of construction and industrial technology. Students experience putting geometry into action by building real-world construction projects. Additional emphasis is given to teamwork, problem-solving, and the promotion of employable attributes.
HONORS GEOMETRY Prerequisite: Algebra 1 Open to: Grades 9-10 Length: 2 semesters Credits: 1.0 Course Number: MA3900	Students in Honors Geometry will study all of the major topics from the Geometry curriculum at an accelerated pace. Extensions to the content will be made to include advanced constructions, transformations, and proofs. Advanced algebra topics will be infused throughout the course. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested.
ALGEBRA 2 Prerequisite: Geometry & Department recommendation Open to: Grades: 10-12 Length: 2 semesters Credits: 1.0 Course Number: MA2030. MA2100, MA2200, MA2500	In Algebra 2, basic algebra concepts are reviewed and expanded to include such topics as complex numbers, advanced polynomial equations, rational functions, powers, roots, and radicals. This course is aligned to the Common Core State Standards for Math. A graphing calculator is suggested.

ALGEBRA 2/TRIG. Prerequisite: Geometry Open to: Grades 10-12 Length: 2 semesters Credits: 1.0 Course Number: MA2300	In Algebra 2/Trig. students will take a more in-depth look at the topics learned in Algebra 1. Students will investigate such topics as complex numbers, polynomial functions, rational functions, roots, radicals, inverses, and logarithms. as well as an introduction to trigonometric functions, equations and their graphs. This course is aligned with the Common Core State Standards for Math. A graphing calculator is suggested.
HONORS ALGEBRA 2/TRIG. Prerequisite: Geometry Open to: Grades 9-11 Length: 2 semesters Credits: 1.0 Course Number: MA2900	In Honors Algebra 2/Trig., advanced topics in algebra and trigonometry will be studied at an accelerated pace. Students will investigate such topics as complex numbers, advanced polynomial equations, rational functions, powers, roots, radicals, logarithms, conics, sequences, and series. Trigonometric topics will include identities, solving equations, graphing, and oblique triangles. This course is aligned with the Common Core State Standards for Math. A graphing calculator is required.
TRANSITIONAL MATH Prerequisite: Algebra 2 Open to: Grade 12 Length: 2 semesters Credits: 1.0 **Fulfills Transitional Math credit as defined by the PWR-ACT.* Course Number: MA4650	This two-semester course is designed to prepare and transition students directly into college and career pathways requiring general education college-level mathematics. Upon completion, students should be able to: demonstrate proficiency and understanding in basic numeracy competencies in whole numbers, integers, fractions, and decimals, use estimation and explain/justify estimates, apply quantitative reasoning to solve problems involving quantities or rates, use mathematical summaries of data such as mean, median, and mode, use and apply algebraic reasoning as one of multiple problem-solving tools, and use functions and modeling processes. Course to be delivered through authentic application, problem-based instruction designed to build mathematical, conceptual understanding and critical thinking skills. *Successful completion (C or better) of a transitional mathematics course for a high school graduate results in direct placement into postsecondary, credit-bearing mathematics courses at all Illinois community colleges and accepting Illinois universities without a placement test. See Postsecondary and Workforce Readiness Act for more information.
PRE-CALCULUS Prerequisite: Algebra 2/Trig. Open to: Grades 11-12 Length: 2 semesters Credits: 1.0 Course Number: MA4700	Pre-Calculus is designed as a typical fourth course for college-bound students. A heavy emphasis is placed on the analysis of functions which includes polynomial, rational, piecewise, exponential, logarithmic, and trigonometric. Other topics include matrices, graphing of functions, sequences, series, and additional applications of Trigonometry. A graphing calculator is suggested.

HONORS PRE-CALCULUS Prerequisite: Algebra 2/Trig. Open to: Grades 9-12 Length: 2 semesters Credits: 1.0 Course Number: MA4900	Honors Pre-Calculus is the preparatory course for Calculus. It is the culmination of the study of elementary functions, trigonometry, and analytical geometry. It also contains the calculus topics of continuity, limits, and derivatives. Successful completion of this course will prepare students for AP Calculus AB or BC. A graphing calculator is required.
PROBABILITY AND STATISTICS Prerequisite: Geometry Open to: Grades 11-12 Length: 2 semesters Credits: 1.0 *This course may be taken concurrently with other math courses.* Course Number: MA6000	Probability and Statistics is an introductory course with an emphasis on science, social science, and leisure applications. Major topics include basic probability, summarizing data with descriptive statistics, and using sample statistics to make inferences about a larger population. This course will be useful for students planning to study disciplines relying heavily on statistical data analysis, such as mathematics, science, medicine, sociology, psychology, education, economics, political science, and business. A graphing calculator is required.
AP STATISTICS Prerequisite: Probability and Statistics or Algebra 2/Trig. Open to: Grades 11-12 Length: 2 semesters Credits: 1.0 *This course may be taken concurrently with other math courses.* Course Number: MA5200	AP Statistics introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students will be exposed to exploring data, sampling and experimentation, anticipating patterns, and statistical inference. A graphing calculator is required. *It is highly recommended that all students in an Advanced Placement course take the Advanced Placement Exam offered each May by the College Board.*
AP CALCULUS AB Prerequisite: Honors Pre-Calculus Open to: Grades 10-12 Length: 2 semesters Credits: 1.0 Course Number: MA5000	AP Calculus AB includes the following curriculum : the development of limits, derivatives, integrals of all functions, curve sketching, related rates, continuity, areas under curves, volumes, maximums, minimums, optimizations, and mean value theorem. A graphing calculator is required. *It is highly recommended that all students in an Advanced Placement course take the Advanced Placement Exam offered each May by the College Board.*
AP CALCULUS BC Prerequisite: Honors Pre-Calculus Open to: Grades 10-12	AP Calculus BC includes all the topics of AP Calculus AB, as well as the following topics: vectors, Taylor Polynomials, convergence, divergence, Taylor and MacLaurin Series, rotations, parametric equations, polar equations for conics,

Length: 2 semesters Credits: 1.0 Course Number: MA5100	slope fields, and differential equations. A graphing calculator is required. *It is highly recommended that all students in an Advanced Placement course take the Advanced Placement Exam offered each May by the College Board.*
AP COMPUTER SCIENCE PRINCIPLES Prerequisite: Algebra 1 Open to: Grades 10-12 Length: 2 semesters Credits: 1.0 ***This course offers a Math or Applied Arts credit.*** *This course may be taken concurrently with other math courses.* Course Number: BU5100	How does the internet actually work? How can cybersecurity protect me? How do I create an app using Javascript? The AP Computer Science Principles class introduces computer science by studying the internet, big data, cryptography, and building Javascript apps. *It is highly recommended that all students in an Advanced Placement course take the Advanced Placement exam offered each May by the College Board.*
AP COMPUTER SCIENCE A Prerequisite: AP Computer Science Principles recommended and/or App Development and Coding Open to: Grades 10-12 Length: 2 semesters Credits: 1.0 ***This course offers a Math or Applied Arts credit.*** *This course may be taken concurrently with other math courses.* Course Number: BU5000	Students will learn a powerful object-oriented programming language called Java by developing desktop and Android applications. The tools to create these apps are used by real Java programmers. This course covers material offered in a first computer science course at the college level, and is recommended for *It is highly recommended that all students in an Advanced Placement course take the Advanced Placement exam offered each May by the College Board.*