MATHEMATICS DEPARTMENT
Junior High School

Arts & Communications	Business, Management Marketing & Technology	Health Science	Engineering/Manufacturing & Industrial Technology	Human Services	Natural Resources & Agriscience

VPAA – Meets Visual, Performing & Applied Arts Requirement
OLE – Meets Online Learning Experience Requirement
GR/MMC – Meets Graduation Requirements based on Michigan Merit Curriculum
21F – Course Available through Section 21F: Expanded Virtual Learning

MATH 7 – E027	**REQUIRED CLASS**	7	1.0 credit

This course stresses both the reading and application of mathematics. Arithmetic principles are consolidated and integrated with concepts from algebra and geometry. An emphasis is placed on problem-solving strategies. Focus is placed on pre-algebra skills in preparation for eighth grade math. **Placement in this class is based on criteria established by Utica Community Schools.**

ADVANCED MATH 7 – E127		7	1.0 credit

This course is designed for students displaying a high degree of skill and interest in mathematics, enabling capable students to make the transition from elementary school mathematics to algebra in one year. It emphasizes pre-algebra skills and concepts, such as variables, equation solving and problem solving. The full range of topics needed for the successful study of Algebra is presented. This course is a continuation of Advanced Math 100 (grade 6), covering the remaining math 7 standards and all of the math 8 standards. **Placement in this class is based on criteria established by Utica Community Schools.**

ALGEBRA I (GR/MMC/OLE) (21F) – E090		7, 8, 9	1.0 credit

Algebra I includes the study of families of functions including linear, quadratic, polynomial, exponential, rational, and bivariate data analysis. Students will also develop their knowledge of power (including roots, cubics, and quartics). Algebra I draws upon and connects to topics related to numbers and geometry by including the formalized study of the real number system and its properties, and by introducing elementary number theory. Use of the graphing calculator is embedded in the course. **Placement is based on criteria established by Utica Community Schools. Refer to the UCS Graduation Requirements document for additional information.**

MATH 8 – E028   **REQUIRED CLASS**   8   1.0 credit

Mathematics 8 is a course designed to prepare students for Algebra I. Arithmetic principles are consolidated and integrated with concepts from algebra and geometry. An emphasis is placed on problem-solving strategies and calculator usage in the applications of mathematics. **Placement in this class is based on criteria established by Utica Community Schools**

GEOMETRY (GR/MMC/OLE) (21F) – E110   **REQUIRED CLASS**   9   1.0 credit

Students studying Geometry should develop analytic and spatial reasoning skills. Work is done with two-dimensional and three-dimensional figures in real-world contexts, building spatial visualization skills and deepening the understanding of shapes and relationships. Areas of study include: right triangle trigonometry, algebraic reasoning applied to geometric situations, transformations of linear and quadratic functions to geometric transformations, and coordinate Geometry. The study of formal logic and proof helps students to understand the axiomatic system that underlies mathematics through the presentation and development of postulates, definitions, and theorems. Students should develop deductive reasoning skills.
Refer to the [UCS Graduation Requirements](#) document for additional information.

ACCELERATED GEOMETRY (GR/MMC/OLE)– E100   8, 9   1.0 credit

Students studying Geometry should develop analytic and spatial reasoning skills. Work is done with two-dimensional and three-dimensional figures in real-world contexts, building spatial visualization skills and deepening the understanding of shapes and relationships. Areas of study include: right triangle trigonometry, algebraic reasoning applied to geometric situations, transformations of linear and quadratic functions to geometric transformations, and coordinate Geometry. The study of formal logic and proof helps students to understand the axiomatic system that underlies mathematics through the presentation and development of postulates, definitions, and theorems. Students should develop deductive reasoning skills. **Placement is based on criteria established by Utica Community Schools. Refer to the [UCS Graduation Requirements](#) document for additional information.**

ACCELERATED ALGEBRA II (GR/MMC/OLE)– E130   9   1.0 credit

Students continue the study of function families including: quadratic, polynomial, radical, rational, exponential, and logarithmic functions. The topic of conic sections fuses algebra with geometry. Units of study include sequences and iteration as well as univariate statistical applications and trigonometry. Students will develop an understanding that algebraic thinking is an accessible and powerful tool that can be used to model and solve real-world problems. This rigorous course moves more rapidly and studies the topics in greater detail than in regular Algebra II. Use of the graphing calculator is embedded in the course. **Refer to the [UCS Graduation Requirements](#) document for additional information.**