Math Pathways Course Descriptions for Students

Course	Description
Algebra 2	Did you love the symbolic manipulation and abstract reasoning of Algebra 1? Do you plan to pursue a calculus-based STEM career? Then Algebra 2 might be for you! This course extends the use of functions to include advanced polynomial, rational, radical and trigonometric functions, where solutions to problems in real-world situations are formulated, validated and analyzed. You will use mental, paper-and-pencil, algebraic and technology-based techniques and a variety of mathematical notation.
Quantitative Reasoning	Do you like to work and communicate with others? Do you enjoy hands-on activities using real-world contexts? Then Quantitative Reasoning might be for you! Quantitative Reasoning is designed to promote reasoning, problem-solving and modeling through thematic units focused on mathematical practices. The course builds upon previous knowledge and extends that knowledge to new situations to create a deeper understanding. Critical thinking and communicating about mathematics are the primary objectives of the course.
Data Science Foundations	In today's society, data is all around you. Whether you go online or to the supermarket, data about you is continuously being collected and used to make decisions. Data Science Foundations will teach you how to collect, analyze and make decisions using data. You will build graphical and statistical models to describe and communicate data using your newly acquired computer programming skills. This course is perfect for beginners! *Note: The big difference between data science and statistics is that statistics focuses on explaining the data, while data science focuses on uncovering insights that help make predictions and decisions.*
Statistics and Probability	Data is all around you. Do you want to collect and analyze data and see how it represents the world around you? Do you like to conduct research? Are you interested in health care or economics? Then Statistics and Probability might be for you! The purpose of this course is to introduce the major concepts and tools for collecting, analyzing and drawing conclusions from data. You will be exposed to broad conceptual themes: exploring data, sampling and experimentation, anticipating patterns, statistical inference and probability. *Note: The big difference between data science and statistics is that statistics focuses on explaining the data, while data science focuses on using data to make predictions and decisions.*
Discrete Math/Computer Science	Are you interested in exploring the skills needed for a technology-based field? Then Discrete Math/Computer Science might be for you. This course builds upon concepts in algebra, geometry and probability and shows how these ideas apply to a digital world. Through hands-on computer programming, you will actively engage with discrete math. Discrete math is the study of "counting" problems, examples include the number of unique handshakes in a room full of people, the way viruses spread from contact to contact and the optimum strategies for board games. Discrete math is the language of computer science. This course is perfect for beginners. No prior programming experience is necessary.