Applications and Modeling CP Syllabus

Course Details

Course Code: 411900CW

Subject: Math

Required Prerequisites: Algebra 1 and Geometry with Statistics

Suggested Prerequisites:

Recommended Grade Levels: 11th or 12th Grade

Duration: Semester

Course Availability: A listing of when this course is offered in the current school year can be found on the VirtualSC Current Course Offerings page (opens in a new window).

Class Times: This course has scheduled instructional meetings. Information on scheduled meetings for each course is communicated by the teacher. Recordings of these meetings will be available for students unable to attend. Students should expect to spend 7-9 hours a week working on this course independently, in addition to any live meetings, and are expected to meet the deadlines posted in the course pacing guide.

Textbook: All course materials are included in the course, and no outside textbook is required.

Required Course Materials: No required course materials

Outside Websites: A list of links to websites and online textbooks used in this course can be found here: VirtualSC Course Links Document Folder (opens in a new window). Students will need to be able to access all these links to view all course materials.

Final Exam: Students in this course take a VirtualSC final exam. Details on scheduling and taking final exams can be found on the Final Exam Page (opens in a new window) of the VirtualSC webpage.

Course Description

Each high school math course places an emphasis on mastery of content, communicating like a mathematician and real-world applications. These courses set the stage for career, college and military readiness. Students will use multiple problem-solving approaches to tackle real-life problems and be given opportunities to show off their growing math skills in projects that apply to their lives.

Applications and Modeling (AM) is a specialized mathematics course developed to expand on and reinforce the concepts introduced in Geometry with Statistics and Algebra 1. AM uses those concepts to represent data, analyze data, and make predictions about real-world phenomena. The course is designed to engage students in doing, thinking about, and discussing mathematics, statistics, and modeling in everyday life. It allows students to experience mathematics and its applications in a variety of ways that promote financial literacy and career-based decision making. In this course, students explore decision making for financial planning and management, design in three dimensions, interpret statistical studies, and create functions that model problems faced by society. Measurements are taken from the real world, and technology is used extensively for computation, with an emphasis on students' interpretation and explanation of results in context.

Each unit begins with a discussion forum where students use their prior knowledge to share their thoughts about current topics. Throughout the lessons, they interact with mathematical models to find solutions to real world situations, then hone their skills with interactive practice. Each unit contains math skills-based quizzes and a real-world application assignment. In AM, the course project is centered around using math to create parts of a business plan.

The curriculum used in this course is guided by the SCCCR Math Standards 2025 (opens in a new window).

Scope and Sequence

- Orientation & Introduction
- Unit 1: Mathematical Decision Making
- Unit 2: Using Mathematical Reasoning to Make Financial Decisions
- Unit 3: Using Probability to Make Decisions About Insurance
- Course Project Part 1
- Unit 4: Connecting 2D and 3D Design
- Unit 5: Using Triangle Measurements to Make Decisions in the Real World
- Unit 6: Using Vectors and Matrices to Make Decisions
- Course Project Part 2

- Unit 7: Using Math to Troubleshoot in Business
- Unit 8: Using Math to Model Data in Business
- Course Project Part 3
- Final Exam

Students will be sent a full list of assignments and their due dates at the beginning of the course.

Current pacing guides for this course can be found on the Current Course Offerings page (opens in a new window) on the VirtualSC website.

Course Grades

The final grade in this course results from the following:

- Coursework: 80%
- Course Project Part 1: 5%
- Course Project Part 2: 5%
- Course Project Part 3: 5%
- Final Exam: 5%

Unit 1 counts **2%**, Units 2-7 count **15%,** and Unit 8 counts **8%** towards the coursework grade.

VirtualSC Details

Information on VirtualSC student guidelines, policies and technology requirements can be found in the VirtualSC Student Support Portal (opens in a new window).