Multivariable Calculus

Course Overview

For the last two years, WHS has utilized a blended format to teach Multivariable Calculus, making use of MIT's Open Courseware. Students watch lecture videos and discuss concepts with the teacher during the next class. The teacher uses a variety of supplemental materials to prepare problem sets to be completed during the class period. Student grades are determined by teacher-created assessments in addition to selected problems from the MIT course resources.

The students who have taken this course have reflected on the format, and while they appreciate the blended learning experience, they agree that the face-to-face time with a teacher facilitating the course is crucial to their understanding. Both expressed the desire to work through the problem sets in a more collaborative setting, but single-student enrollment has prevented that. One student also expressed an interest in engaging in a project-based learning experience for each unit.

When we first proposed this course offering, we looked into other options and formats. Partnering with a neighboring district proved difficult due to scheduling and transportation. Online options for this course exist, but "true course" offerings run approximately $4,000-$5,000 per student, which, for more than one student, does not make budgetary sense if we can offer it in-house.

Proposed Changes

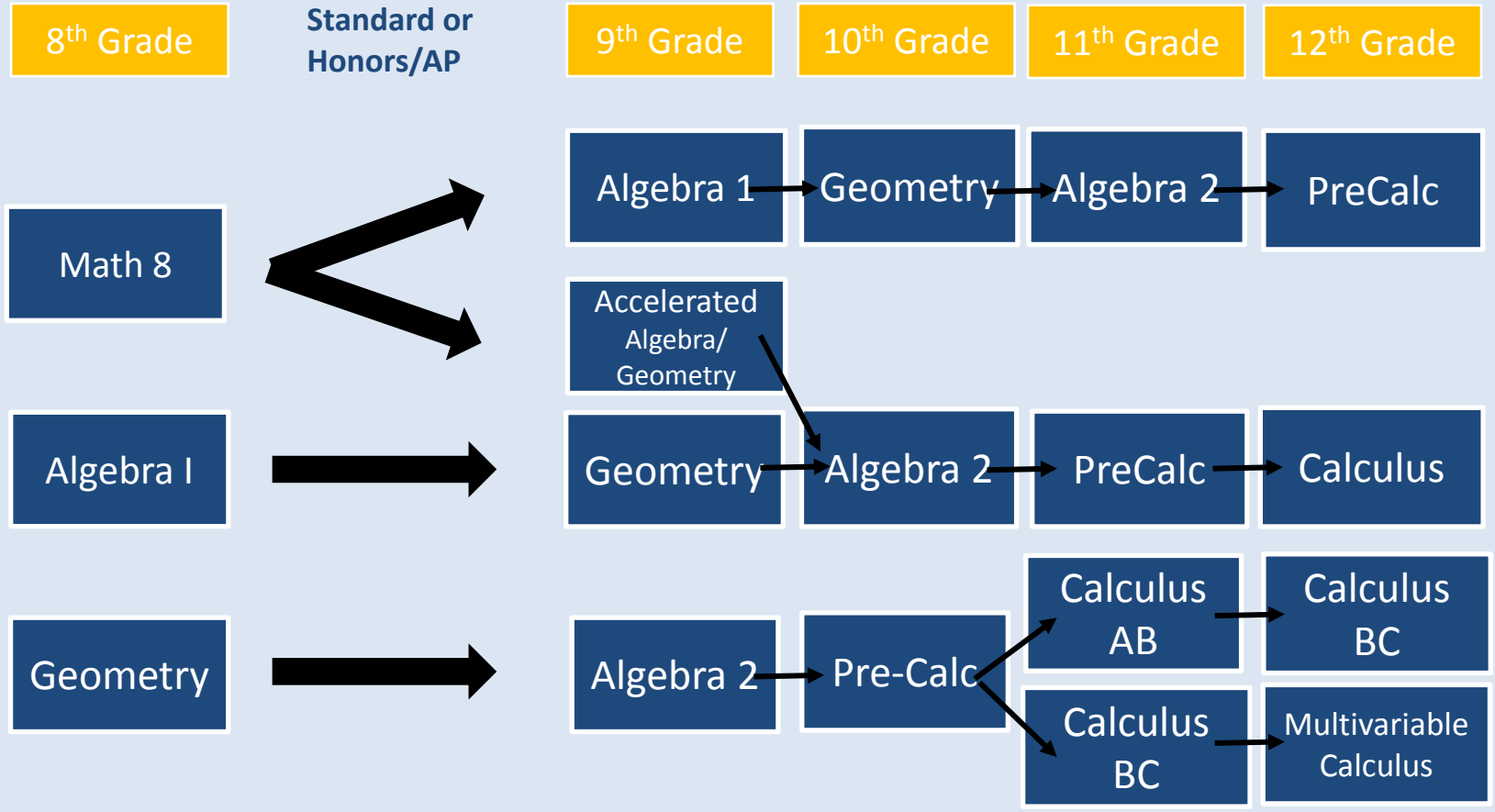
Continue to offer MVC in a blended format, reducing the FTE to 0.1. Look at current Honors Pre-Calculus enrollment and identify students who are academically capable and motivated to move directly into AP Calculus BC, in order to create a larger cohort of students taking MVC for the 2020-2021 school year. The majority of DRG A and other area districts recommend students coming from Honors Pre-Calculus for either AP Calculus AB or BC, they do not offer it in sequence, as we do at WHS.

Investigate adjusting the course structure of Honors Pre-Calculus to accommodate students moving directly into AP Calculus BC. Honors Pre-Calculus courses in other DRG A and area districts include an introductory unit on limits and continuity, which is the first unit in a Calculus course. Some districts also permit students to take Multivariable after *either* AB or BC Calculus.

	2018-2019	2019-2020 (projected)	2020-2021 (projected)
Enrollment	1	2	7-8 (3 in Calc AB in 2018-19 + 4-5 from 2018-19 HPC)
FTE	0.2 (4 periods MVC, 2 periods CASE)	0.1 (3 periods per cycle, full year)	0.1 or 0.2?
Course Format	Blended – lectures from MIT Open Courseware; teacher-created classroom problem sets and assessments	Blended – lectures from MIT Open Courseware; teacher-created classroom problem sets, project-based activities and assessments; collaborative work on MIT Problem Sets	Blended – lectures from MIT Open Courseware with a move toward a more "traditional" course; teacher-created classroom problem sets, project-based activities and assessments; collaborative work on MIT Problem Sets

Weston Public Schools

Secondary Mathematics Pathways



Elective Courses:
Statistics (AP or standard) is available by teacher recommendation to students who have completed Algebra 2.