BHS Math Department Course Outline

Trigonometry & Discrete Topics

course overview

This course is limited to seniors who have passed Algebra II, but may not feel ready to prepare for calculus. Fall semester trigonometry topics will include trig functions, distance and angular velocity, special angles, and right and oblique triangle applications. Spring semester discrete topics include voting methods, fair division, apportionment, censuses, probability, statistics. Applied mathematics topics include wages, taxes, banking services, credit card buying, housing and transportation purchasing. 1 credit.

prerequisite

Senior standing and a passing grade in Geometry and Algebra II.

course goals and objectives

graduation standards: Trig/Discrete provides a 3rd math credit for graduation. This course completes the basic math curriculum through trigonometry and provides unusual and interesting excursions into topics of everyday existence.

links to [1997] burlington school district standards:

2.3, 2.4, 2.7,

links to Vermont's framework standards:

7.3.aaa, 7.4.aa, 7.5.aaa, 7.7.eee-j (all), 7.9.aaa-ee (all), 7.10.aa

course content

semester 1:

trig functions, distance formula, radians, unit circle, angular velocity, right triangles, angles of elevation and depression, special angles, law of sines, law of cosines, area, vectors, property description, lot balancing. Land surveying project.

semester 2:

possible discrete topics include: voting methods, fair division, apportionment, censuses, surveys, probability (sample spaces, dependent/independent events, odds, models), statistics (normal distribution, quartiles, RMS, standard deviation), wages, taxes, banking services, credit card buying, housing and transportation purchasing.

assessments and instructional strategies

Assessment will be taken of in-class work by one-on-one teacher feedback, of tests by grading, and of homework by review. Extension of investigation will be assessed by special group projects.