SOUTHERN LEHIGH SCHOOL DISTRICT
5775 Main Street
Center Valley, PA 18034

Planned Course for Mathematics

Course: Honors Calculus

Standards:
This course is aligned to a selection of Learning Objectives and Essential Knowledge in the following Big Ideas from the 2016 College Board Framework for AP Calculus AB and AP Calculus BC:
1   Limits
2   Derivatives
3   Integrals and Fundamental Theorem of Calculus

Course Description:
The K-12 mathematics program within Southern Lehigh School District will provide opportunities for all students to develop the ability to independently apply mathematical knowledge and skills to real-world situations. A robust and coherent curriculum will prepare students to think and reason mathematically while requiring them to demonstrate a deep understanding of mathematics. Students will develop critical thinking, problem solving, innovation, collaboration, and communication skills. A focus will be placed on using mathematics as a key to understanding the world, in order to meet the challenges of a dynamic society.

HONORS CALCULUS is designed for students who have earned high levels of achievement in mathematics. Content focuses on functions, limits, methods and applications of differentiation and integration. Students who are interested in pursing careers in business, science, mathematics, engineering, or related areas would benefit from taking a calculus course.

Prerequisite(s):
• Earn a minimum grade of a C+ in Precalculus or a C- in Honors Precalculus

Measurable objectives to be attained by students:
Specific objectives for this course are aligned to a selection of Learning Objectives and Essential Knowledge from the 2016 College Board Framework for AP Calculus AB and AP Calculus BC as outlined in the Scope and Sequence for Calculus.

Instructional Strategies:
Below is a list of suggested strategies for high-quality instruction in mathematics:
- Instructional components outlined in the *Framework for Teaching* by Charlotte Danielson
- Use Concrete Representational Abstract (CRA) representations
- Promote productive struggle
- Promote mathematical discourse
- Use precise mathematical language

Estimated Instructional Time:
77 minutes per day on an alternating A/B block schedule for one school year

Forms of Assessment to Measure Attainment of Course Objectives:
- Curriculum-based measures
- Benchmark Assessments
- Formative Assessments
- Summative Assessments

Resources:

Student Text Resources:
Larson, Ron, and Bruce H. Edwards. *Calculus of a Single Variable: Early Transcendental Functions*. Cengage, 2019.
- Student Text Printed Version
- Student Text Online Version
- Solutions Manual

Teacher Resources:
Larson, Ron, and Bruce H. Edwards. *Calculus of a Single Variable: Early Transcendental Functions*. Cengage, 2019.
- Teacher's Guide Printed Version with Online Access
- Solutions Manual
- Resource Guide

Technology:
Graphing calculator
District approved supplemental technology

Other Resources:
Manipulatives
Teacher created resources
District approved supplemental resources