Luther Burbank High School
Diploma Programme
IB Math AI SL Year 2
2024 – 2025

Our goal is to graduate all students, to prepare them for success in higher education, and to be contributing members of the community

Teacher: Nikhil Ranjan
Room: #3106
Email: nranjan1@saisd.net
Schedule: 2nd Period on A-Days 5th Period on B-Days.
M/W: 10:55 AM - 12:35 PM
T/R: 8:45 AM – 10:50 AM
F: 10:00 AM – 11:10 AM (A)
F: 8:45 AM - 9:55 AM (B)
Tutoring: By appointment (subject to change)
Conference: 1st Period on A-Days.
M/W: 8:45 AM – 10:50 AM
F: 8:45 AM – 9:55 AM

Course Overview:
This course recognizes the increasing role that mathematics and technology play in a diverse range of fields in a data-rich world. As such, it emphasizes the meaning of mathematics in context by focusing on topics that are often used as applications or in mathematical modeling. To give this understanding a firm base, this course also includes topics that are traditionally part of a pre-university mathematics course such as calculus and statistics.

In this second year, the pace of the class will pick up with the IB examinations taking place in the Spring semester. The goal of this course is to build on the foundation laid in the first year in order to both increase the understanding of mathematics and its generality in the real world, as well as prepare scholars for the aforementioned exams.

Assessments:
60% will come from Homework, Daily Grades, Exit Tickets, and more
40% will come from the Exams that will mimic the IB Exam as closely as possible

Topics that will be covered for the first time:
1) Probability
2) Functions
3) Calculus
4) Finance

Classroom Policy:
1) No cellphones (school-wide policy). I will be picking them up at the door.

2) All materials needed for class are there right when a student enters. They should grab what they need and be in their seat by the time class starts, working on the relevant introductory material.
3) Restroom passes (school-wide policy) will not be issued during the first 10 minutes of class and the last 10 minutes of class

Materials needed:

1) Notebooks (provided if a student doesn't have their own)
2) Pencils or Pens
3) Highlighters

Instructional Methodology:

Particular attention is paid to helping students understand concepts from a variety of different avenues. Students discover numerical, graphical, and analytical methods of understanding concepts and are required to express their understanding through written word when instructed.

Much learning and understanding can be gained from having a classroom that is student-centered in structure. This class aims to incorporate both copious amounts of direct instruction as well as activities that encourage inquiry-based learning to allow students to develop the necessary understanding and skills to gain an intuition on the subject. A combination of practical and conceptual practices will be engaged with for every topic to ensure that students get to understand what it means and why it works the way it does. This combination is the only natural way to approach higher level math just as when it was developed.

Role of Technology:

The graphing calculator plays an integral role in both developing and applying concepts of calculus. Thus, it is *highly suggested* that all students enrolled in IB Math AI SL have access to a graphing calculator both in class and at home. If necessary, we can discuss checking out a calculator, but there will be a contract that needs to be signed to ensure the student understands the responsibility and potential consequences of using one. Although these calculators are available, free of charge from the school, students are encouraged to have their own graphing calculator. Instruction during class activities and lectures will be using the TI-NSpire. Any calculator from the TI family from TI 83 or newer will be the best.