

Welcome to Vampy Mathematics 2024! This class has two main purposes: to advance students' mathematical thinking through individual study on their individual skill level, and to explore higher level mathematics collaboratively. The daily structure of this class will tentatively follow the layout below:

8:45 - Arrive to class for daily problem solving questions

9:00 - Begin individual study

10:15 - 10:35 - Break

12:00 - Depart for lunch

1:00 - Return from lunch and begin group explorations

2:30 - 2:55 - Break time

4:15 - Return to residential area

### **Individual Study**

Please note that individual study does not mean sitting quietly the entire time. Students are encouraged to work together with others who are exploring the same topics and heavily encouraged to ask questions of the instructor. After a student has completed a chapter of their assigned topic, they will take an assessment to test their understanding of what they have studied. This allows the instructor and TA to advise the student before they move on within their studies. Students will be closely monitored and probed for understanding throughout the three weeks on their assigned area of study.

### **Afternoon Explorations**

Students will work together to discover various topics within higher mathematics. Some of these topics include spherical geometry, incidence geometries, set theory, and number theory. When not exploring new topics, students will be given problem solving tasks that they will tackle as a group. Many of the afternoon explorations will include talks from various WKU professors and mathematics career professionals.