Research Project Title: Zeros of Derivatives  
Faculty Mentor: Professor Stephanie Edwards, Mathematics

Research Project Description: There are many open questions dealing with the zeros and zeros of derivatives of real polynomials and functions of the form $P(z)e^Q(z)$ where $P$ and $Q$ are real polynomials. This summer we will use technology (Maple) to look at the level sets $\{z \in \mathbb{H}^+: \text{Im } f(z)=0\}$, where $f(z)$ is a strategic auxiliary function, to explore the number and location of non-real zeros of derivatives of functions of the form $P(z)e^Q(z)$. Some familiarity with complex number and calculus is beneficial.