Course: Pre-AP Professional Development Math  
Date(s): August 04, 2014 – August 07, 2014  
Instructor: Vernon “Ted” Gott  
Email: tedg20776@comcast.net  
Days: Monday – Thursday  
Time: 8:00am – 5:00pm  
Setting: Classroom  
Lunch: One (1) Hour  
Prerequisite(s): Bachelor Degree w/teacher certification  
CEU’s: 32 Contact Hours, 3.0 CEU’s  
CE Email: continuingeducation@tamiu.edu  
CE Telephone: (956) 326-3068  
Supplies Provided: College Board Bundle and Instructor Printed Material  

Learning Outcomes:  
1. Content Knowledge:  
Identify, develop, and use rich mathematical problems and activities that formatively assess students’ grasp of key concepts of rate of change, area under a graph, functions, probability rules and distributions, simulation, Law of Large Numbers and data description.  
GPE001: Knowledge - Theory: Apply knowledge of psychological and educational theory, research, and/or philosophy related to the area of specialization or certification.  
GPE002: Knowledge - Assessments: Demonstrate understanding and use of the types of assessments appropriate to the area of specialization or certification.  
GPE007: Skills - Problem Solving: Use problem solving/critical thinking strategies appropriate to the area of specialization.  
2. Pedagogy and Student Learning:  
Develop applications of multiple representations by adapting AP Free Response questions as a pedagogical process for helping students learn about the concepts of rate of change, area under a graph, functions, probability rules and distributions, simulation, Law of Large Numbers and data description.  
Align a curriculum across grade levels by organizing instruction around the key concepts of rate of change, area under a graph, functions, probability rules and distributions, simulation, Law of Large Numbers and data description.  
GPE005: Skills - Theory: Demonstrate the ability to incorporate theory and research into practice related to the area of specialization.  
GPE006: Skills - Data: Demonstrate the ability to gather appropriate data and use data in problem analysis and decision-making related to the area of specialization  
GPE007: Skills - Problem Solving: Use problem solving/critical thinking strategies appropriate to the area of specialization.  
GPE010: Skills - Technology: Use a variety of technologies appropriate for working in the area of specialization.  
3. Analysis and Reflection:  
Reflect on their teaching and assessment practices in order to facilitate their own learning and to enhance the learning environment for their students and engage in substantial professional
Description:
This course will include activities and experiences in the strands that set the foundation for AP Calculus and AP Statistics. Some of the topics that will be explored include rate of change, accumulation, functions, assessments, data gathering, and probability. Participants will write activities based on published AP Calculus exam questions. Whenever possible, participants will engage in the "Rule of Four"- looking at a problem verbally, analytically, numerically, and graphically. There sometimes will be physical representations as well.

Aug 4: Vertical Teams and Key Concepts
Aug 5: Concept of Rate of Change and Functions
Aug 6: Concept of Accumulation
Aug 7: Statistics and Probability