Abdullah Abu-Rqayiq, Ph.D.

My name is Abdullah Abu-Rqayiq, I have a Ph.D. in mathematics and I teach and do research in TAMUCC. I have been teaching Math since 2005. I taught Math for different educational levels in different countries. I started my career as a Math teacher in Jordan. Then I moved to Qassim University in KSA where I worked as a Math Lecturer for the Preparatory Year students. To pursue my Ph.D., I moved to the USA in 2013. I graduated from New Mexico State University in 2018. After graduation, I was offered a visiting position in NMSU for a year. Then I joined TAMUCC in 2019.

In TAMUCC, I enjoy teaching different Math courses every semester. I always encourage my students to work Math problems by their selves. I believe that the best way to learn Math is to do Math. I also believe that the good teacher is the one who facilitates the learning process for the students. I look at Math as a language. Therefore, I encourage everyone who would like to learn this language to focus on the basics, relations, structures, logic, history of Math, and proofs. Exactly as if you learn a new language, you need to focus on the basic skills; writing, listening, speaking, and reading. In Mathematics, you need to learn how to write neat, clear, and well written statements, and to read Math problems carefully and focus on numbers, symbols, and relations. You also need to know how to describe different Math concepts verbally and to be able to discuss Math problems with other interested people.

In additions to teaching goals, I enjoy conducting research in Math Biology. In my research, I focus on population dynamics. I implement the general theory of dynamical systems to describe and capture the behavior of solutions. I apply different mathematical approaches for this purpose. For instance, I apply the Adaptive Dynamics approach combined with the unfolding theory of the Singularity Theory to study evolutionary dynamics of competitive phenotypes. I also use a Control Theory approach to optimize the cost of the treatment of brain tumor virotherapy. I apply a fractional calculus approach to capture the memory of derivative for certain problems. I use stochastic differential equations in my current research to make models more realistic by incorporating the noise. I explore every available method and approach to enhance our understanding of population dynamics.

I welcome any questions regarding my teaching or research. I am also willing to work with other researchers to make connections and to share ideas.