ACADEMIC PHYSICS TUTOR

OVERVIEW

I had the opportunity to be teachers assistant in the mechanical physics laboratory during my bachelor studies at National University.

EXPERIENCE AND LEARNING

I skilled subjects related with basic physics, metrology and statistics neccesary to deploy mechanical experiments and teach effectively a wide range of topics to more than 300 students during my almost 2 years of experience.

COMMUNICATION

Improved my ability to communicate complex concepts in a clear and concise manner, ensuring that students of all levels were able to understand and apply the material.

FOUNDAMENTALS

With a strong focus on statistical uncertainty, I was able to teach students how to approach and analyze basic scientific problems with a critical and analytical mindset. I also helped them to develop their problem-solving skills and fosters a deeper understanding of the subject matter.

INSPIRATION

I felt I enhanced my ability to inspire and engage students in the study of physics. Through my expertise and dedication, some of them were able to aquire love of learning and a deep appreciation for the beauty and complexity of the natural world, spetially from a classical perspective of nature, vitally important to develop future scientists.

INFORMATION TECHNOLOGIES

Knowing better and managing the fundamentals of physics has improved my skills in a deep understanding of mathematical and computational principles that some fields like full stack web development and data analysis require.

Links:

https://virtualciencias.medellin.unal.edu.co/course/view.php?id=31

LESSONS

Fundamentals of Metrology, Static Calibration of a Spring, Equilibrium of a particle: Concurrent forces, Equilibrium of a rigid body: Non-concurrent forces, Freefall, the inclined plane, Parabolic movement, Circular movement, Newton's Second Law: Rectilinear Motion and Circular Motion, Energy conservation,collisions, centers of mass.

UNIVERSIDAD NACIONAL DE COLOMBIA

+2 years being assistant

+210 teaching class in the experience

interactions with +300 students in the experience

$$u_c(y) = \sqrt{\sum_{i=1}^{n} [c_i u_i(x_i)]^2}$$

Statistical Uncertainty focused lessons

Juan David Rodriguez - Physical Engineering