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Upper School Physics  
Cary Academy  
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Dear Cary Academy,

I am incredibly excited to be applying for the position of Upper School Physics Teacher at Cary Academy. I heard about the job listing through Matt Greenwolfe. Knowing that Matt is a physics teacher at Cary Academy with a passion for modeling-based instruction, technology utilization, and modern mathematics compelled me to apply for the position. Matt's approach and dedication, extending outside of core teaching, gave me confidence that the values of Cary Academy are authentic. I was inspired to apply for the position as a way to share my subject knowledge, patience and time, and be rewarded by the joy of seeing students find things out for themselves.

In order to teach physics, a solid understanding of the subject matter concepts as well as the technical mathematical skills is essential. I have worked tirelessly, through only my own passion for the subject, to maintain and extend my knowledge so that it encompasses modern perspectives. For example, I designed and programmed a free on-line teaching tool that allows young students to model physical systems using quantities expressed in geometric algebra, units of measure, and with 2D and 3D visualization. The analytics show that it is used in over 30 countries around the world. On the basis of collaborative work on the core technology, I was selected to mentor students in the upcoming Google Summer of Code. Another project I have initiated is to create a 21<sup>st</sup> Century Physics Curriculum with greater integration between phenomenological areas and incorporating modern mathematics.

To be a good teacher, I believe that it is also necessary to have a genuine interest in students at an individual level and to be compassionate. To this end I have volunteered in the Citizen Schools program and I provide free help at a local library mentoring students in the evenings.

As my understanding of Cary Academy has expanded through this process, I have come to appreciate what a truly unique and valuable educational institution we are fortunate to have in this area. I am particularly impressed by the progressive and flexible nature of the curriculum, the excitement and mature attitude of the students, and the clear commitment of the staff. Cary Academy obviously cares about developing each student to their maximum potential and this shows in the innovative, sometimes technological, approaches to instruction, special time allocated to exploration, and the diversity of extra-curricular activities. I would like nothing more than to serve the students by sharing my knowledge, a genuine interest in their future and happiness, and to be part of the exploration for innovative ways to mentor future generations of physicists and scientifically literate global citizens. Thank you for considering me for the position

Sincerely,

David Holmes