

Jason Bane  
Newport News, VA  
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Human Resources Dept.  
Austin Peay State University  
Clarksville, TN

Hello,

I write to apply for the assistant professor position at Austin Peay State University teaching physics, engineering, and astronomy. I successfully defended my dissertation "The EMC Effect in  $A=3$  Nuclei" under the direction of Nadia Fomin, at the University of Tennessee. My dissertation research brought me to Thomas Jefferson National Laboratory in Newport News, VA. My time at the lab has been devoted to honing my skills and knowledge in the complete process of being an experimental physicist. I experienced constructing spectrometers, refurbishing detectors, building electrical systems for data acquisition, analyzing large data sets, and collaborating with a diverse community while working with three electron scattering experimental groups.

My research at Jefferson Lab and my time as an educator at the secondary and collegiate level has allowed me to develop my skills as a teacher and mentor. Collaborating with a diverse group of scientists to construct, maintain, and operate three electron spectrometers has allowed me to gain a better understanding on how to adapt my skills as a mentor and leader to a diverse body of people. Before joining a research group, I worked as a graduate teaching assistant. As the head astronomy lab instructor, I designed lessons that used the planetarium, interactive computer programs, and night time viewing with telescope to facilitate the learning of basic astronomy topics for undergraduate students focusing in variety of majors. My time teaching at the secondary level focused on teaching physics, geometry, and college prep math. Teaching these three course required me to be willing to adopt innovative teaching methods to promote learning for all of my students. I designed lessons that focused on problem solving skills and discussion. I also implemented other teaching techniques appropriate for the concept being taught for example, hands on labs, demonstrations, computer based labs, and student presentations. My lesson designs use constant assessment through observation and direct questions, while also using self assessment to drive critical thinking.

The knowledge and skills I have gained while working as a researcher and educator has made me a good candidate for the assistant professor position. I have direct experience in teaching physics and astronomy along with tutoring physics, math, and engineering students. The connections I have made at Oak Ridge National Lab and Thomas Jefferson Nation Lab would allow me to provide research projects focusing on nuclear and accelerator physics to the undergraduates of Austin Peay State University. Currently, I am finishing graduation requirements to receive my diploma in December. I am submitting a CV that contains the contact information for three references, a teaching statement, and a research statement with this letter in the application.

Thank you for your time and attention,  
Jason Bane