Arlene Walker-Andrews
Office of the Provost

Dear Dr. Walker-Andrews,

When Dave Friend arrived at the University of Montana in the summer of 1990, he was given the task of reviving and expanding the "Astronomy" portion of the Department of Physics and Astronomy (a permanent Astronomer had not been employed at UM for several years). He dove into that task with a ferocity and passion that was unheard of in the department at that time. He literally *became* the Astronomy department, teaching virtually every Astronomy course that our department offered, and serving as advisor for all *Physics and Astronomy* majors. Dave helped refurbish the Blue Mountain Observatory (BMO) and began offering open houses during the summer months, attracting hundreds of community members to view the wonders of the universe through our 16-inch reflecting telescope. He was awarded several NASA and NSF grants for improving the facilities and performing various research projects with students. The older professors in the department probably grumbled to themselves about Dave's methods (e.g., showing clips from popular science fiction shows and movies in his introductory astronomy courses to drive home a point, or having his students call him "Dave", rather than "Professor Friend"), but they certainly couldn't grumble about his success. As word spread among students of Dave's approachable teaching style, his seamless use of videos, slides, and demonstrations in lectures, and his infectious enthusiasm for astronomy, the enrollments in his courses ballooned, and more students than ever signed up for our combined major in Physics and Astronomy. Dave is the quintessential teacher, always willing to go the extra mile to help and encourage his students. He expects the same degree of excellence from his students as he expects from himself. After 15 years at UM, students still flock to his lectures, write rave reviews at evaluation time each semester, and our Astronomy option is more popular than ever. Dave Friend is eminently qualified, and richly deserving of *the Distinguished Teaching Award* and I hereby officially nominate him for that honor.

From the thousands of students that Dave has taught in his courses over the years, I chose 12 of them to help in writing this nomination letter. I sent out 12 emails, and within 24 hours, I had received 11 replies, all of them simultaneously offering to help in any way they could, and admonishing me for having waited so long to nominate Dave for an award such as this. Over the past few weeks, as I have received testimonial after testimonial from these men and women, a vivid portrait of Dave as a teacher, mentor, and friend to each of these students has emerged. Their respect and admiration for him as their former professor comes through first and foremost, those feelings are pervasive and obvious, but a more subtle leitmotif comes through as well. These young men and women unanimously recognize that their association with Dave, whether as a teacher, academic advisor, or research advisor, has changed their lives for the better. They all feel intense gratitude for everything he has done for them.

Dave has undoubtedly had the biggest overall impact at the university with the introductory astronomy courses. These two courses: ASTR 131N, which deals with the astronomy of our solar system (taught every fall semester) and ASTR 132N, which deals with stars, galaxies, and the universe (taught every spring semester) are probably the most popular general education courses in the Natural Sciences that the University offers. Now in his 15th year, Dave has taught these two courses every year since his arrival on campus (the one exception was the fall of 2001 when he was unable to teach ASTR 131 while recovering from surgery for colon cancer, although he did teach his advanced astrophysics course). With typical enrollments exceeding 300 students per semester, and with Dave teaching these courses year in and year out, I submit that Dave has taught more students in his courses than any faculty member currently on the UM campus. Josh Wilson, class of 2000, has this to say about the intro courses:

The Urey lecture hall is a terrible environment, really. It's huge, and any classes in there are loaded with distracted undergraduates. But Dave did a terrific job wrangling them all into coherency by interweaving science fiction clips into the lecture. I'm not sure there's any easy way to reach such a population, but his

care in digging up obscure sci-fi examples kept everyone's interest. On Halloween he comes in dressed inconspicuously in a jacket, and just before he starts the lecture, the room goes dark and when the lights come back up the jacket's off to reveal his Starfleet officers uniform. I think all of this contributes to the approachable image he projects. It's confirmed when you stop by his office and he's always eager to help you with course work, or just to chat. Dave's ability to generate an emotional interest in material is part of what swayed me toward a career in astronomy and physics.

Kristie Anderson adds:

I took Professor Friend's Elementary Astronomy "just for fun". But I had no idea just how much fun it would be, nor that it would ultimately lead to purchasing an 8-inch reflective telescope of my own! His course was one of the best learning experiences I have had. With wonderful visuals, demonstrations, personal observations and anecdotes his classes were both exciting and inspiring.

In addition to introductory courses in both astronomy and physics, Dave teaches all of the upper division astronomy courses required for the astronomy option, and has taught many advanced physics courses as well. In fact, until recently, he was the only member of our faculty who had the expertise to teach such a wide variety of courses. Eric Nelson, class of 1999, and now a high school physics/astronomy teacher says:

I was inspired by the astronomy courses I took from Dr. Friend, and through that inspiration, I was able to use astronomy as a tool to teach high school students who have been typically unsuccessful and/or disinterested academically.

Tom May, class of 1998, writes:

What I remember best about Dave Friend is what a natural humorist he was. You wouldn't know it if you met with him one-on-one for an advising session or stopped him in the hallway, as in those unguarded moments he may have seemed shy or nervously awkward. However, put him in the classroom, in front of an audience as large as the Urey Lecture Hall or as small as an upper-level physics class and he could command the room. He often would use humor in his lectures, no matter how serious or complex the subject. A student can only take so much talk of hydrostatic equilibrium or Hertzsprung-Russell diagrams before his mind tends to wander in the presence of such an onslaught of equations. Dave could always break up the monotony, not to mention his students, with a well-timed gag or jape.

Patrick Martin, class of 2002, who is working on a master's degree in medical physics writes:

As a physics and astronomy student, I had the privilege to be in many of the courses taught by Professor David Friend. In fact, I'm nearly certain that I enrolled in every single one of his courses offered during my time at the University of Montana. Most of them were in astrophysics, but I didn't take them only because I wanted to be an astrophysicist. I took those courses because he was an outstanding teacher, and in my experience, being with a great teacher makes everything seem simpler than it would otherwise be. Prof. Friend was able to communicate even the most abstract aspects of astrophysics in a way that made learning an effortless and interesting experience and for me learning was rarely that easy. I'm grateful for all he helped me learn in physics and the important lessons he taught me about perseverance, courage, and humility.

And Adam Bayliss, class of 1999, now earning his Ph.D. in plasma physics, adds:

When I was an undergraduate I took many courses from Dave (every one he taught), and I always found that from Intro Astronomy to Advanced Quantum Mechanics, Dave could tailor an explanation to his student's level of expertise.

Dave's contribution to the outreach efforts in our department have been outstanding and are best exemplified by his dedication to using the Blue Mountain Observatory (BMO) as a teaching tool for the community, as well as a research and teaching tool for our students. Here's what Adam had to say about working with Dave at the observatory:

Shortly before I graduated I was staffing an open house at the BMO, which many members of the public attend. Watching Dave answer questions at that event showed me that Dave was strong in his study and passionate about teaching since it really takes passion and intellectual dedication to know a subject well enough to be concise and simple in explanations.

Here's what Kristie Anderson says about her experiences at the observatory:

Dave's personal love of astronomy shows through not only in the efforts he puts into his classes but also in the hours spent late into the night manning the BMO. I remember one night at the Observatory when more than 100 people were waiting to look at Mars. Dave spent the night directing traffic, talking to people in line and pointing out constellations, until everyone had an opportunity to see Mars through the telescope.

Dave is currently mentoring three students in research projects at the BMO. One, Brian Hand, is a Watkins scholar, and the other two, Agatha Light and David Podrasky, are funded through the NSF/EPSCORE program.

Since we are such a small department on campus, with relatively few majors, we have unique opportunities to affect the lives of our students. No one takes more advantage of those opportunities than Dave. Dave welcomes the unsure freshman into his office during summer orientation to help them register for their first university courses, and four years later, he's the one to hand them their diploma and the first to shake their hand. In the intervening years, he has been their professor, their advisor, and their friend. Here are a few excerpts showing how students looking back on that experience feel:

It's ironic that as I am typing this, the papers-to-grade are stacking up and I have a physics test on the fundamentals of light to write by tomorrow morning, and yet I am taking the time to write a lengthy recollection of his positive influence on me, and feel honored to do so. I know that this wasn't needed right away, but I almost desired the sacrifice as a way to internally feel like I am giving back to someone that I believe has given so much to me. (Eric Nelson, class of 1999, high school teacher).

I often think of Dave. He is one of the bright spots in a difficult time in my life as a nontraditional student, 4 kids, a part-time business, and 2 brothers dying while I was in college. He is one of those people that made it all worthwhile. (Doug Frandsen, class of 1994, high school teacher).

David took a personal interest in all of us students. His guidance and support were directly responsible for my career path. When grad school was looking more and more out of reach for me, his positive attitude and his observational astronomy class showed me an alternative course of direction. And now here I am, an observing assistant/service observer at one of the top astronomical sites in the world. (Teddy George, class of 1999, telescope operator at Mt. Maunakea Observatorys, Hawaii).

As I stated above, Dave missed a semester of teaching while recovering from surgery. Here is another excerpt from Patrick Martin's letter, detailing an incident that occurred the following semester:

I distinctly recall one lecture near the beginning Prof. Friend's course on galaxies and cosmology. He was describing particular characteristics of galaxies and began to write a table, but soon ran out of space on the chalkboard and had to start writing higher up. He lifted his arm above his shoulder with apparent discomfort, stopped writing, and quietly moved across the room to the next chalkboard and finished the table. He then explained in a matter-of-fact way that he couldn't write high on the board because his lung was

recently punctured during a catheter placement for chemotherapy. I still have the notes I took that day because I don't want to forget the example he gave me during that lecture. To a young man trying to find a meaningful role in life, I found Professor Friend's lectures and example to be the most valuable gifts I received during my education at the University of Montana. I sincerely hope that the University will award his outstanding efforts and contributions with the recognition he deserves. Ad astra per aspera.

I include these excerpts from student letters to reinforce my assertion that Dave Friend is eminently qualified, and richly deserving of the title of "Distinguished Teacher", but in some sense this is really their nomination, and the nomination of the thousands of students who have benefited from Dave's passion for astronomy and physics over the years. I believe, and I know that Dave would agree, that it is the enthusiasm for physics and astronomy that these students have, and their accomplishments and successes in their chosen careers that is his true reward for all of his hard work and dedication over the years.

Sincerely,

James P. Jacobs
Professor and Chair
Physics and Astronomy