

Make it count!

Dear Fellow Spartan:

I am writing this letter on the day after graduation at Michigan State University. In my function as Undergraduate Program Director in the Department of Physics and Astronomy, I had the privilege yesterday to walk with the graduating seniors in my department who were receiving their degrees. For them, this event concluded an important leg in the journey of personal, intellectual, and emotional discovery and growth on which you are just about to embark. The graduates listened to a number of speeches but were probably too excited to pay much attention. So it occurred to me that I might get a head-start and give you my graduation speech right now, at a time when a little friendly advice might be more helpful than it will be four or five years from now.

What will it take for you to graduate from Michigan State University, and to be successful in your future life, both professionally and personally? Although I don't have all the answers you will need, I can offer is a few suggestions for how you might use your time here at MSU. So here goes

This is possibly the greatest time in history to be a learner. The Internet is only beginning to revolutionize how knowledge is created, collected, and disseminated. Now, more than ever before, it is clear that there is no static body of knowledge, but that knowledge is evolving dynamically all the time. Emerging technologies are helping new companies develop different business models and paradigms that compete with and often outperform older and more established competitors. Just think of the "dot-coms." In the same way, these new technologies have the potential to level the playing field in our educational system and to blur the boundary between learners and teachers.

Michigan State University's faculty is ready to welcome you to this learning partnership. There are approximately 2000 tenure-stream professors on our campus and another 1000 professional teaching and research staff members. This number is larger than the total student enrollment of most small colleges. Many Michigan State faculty members are world-leading researchers in their scientific disciplines. At the same time, we are committed to involving undergraduates in our research endeavors. As a result, when you chose to come to Michigan State for your undergraduate education, you chose to come to a unique place. I urge you to take full advantage of the combination of research, teaching, and learning opportunities you have available to you here.

You may question whether you can contribute to a world-class research program right away. You may dismiss the idea as crazy. But when you learn that many of our faculty actually employ undergraduate students in their research labs on a

regular basis, you may begin to think otherwise. My advice is: Pick an area of research that looks interesting to you and simply ask a professor if she or he can use your help, paid or unpaid. Even if the person you approach does not have an interesting opportunity at the moment, chances are that he or she knows somebody who does.

Let me tell you a little bit about my own research interests at this point. I am a professor in the Department of Physics and Astronomy, and I also have an appointment at the National Superconducting Cyclotron Laboratory at MSU, one of the world's leading nuclear physics research institutions. My colleagues and I have had the good fortune to have many undergraduates work with us on our research projects. If you have an interest in the physical sciences or if you know how to program a computer, don't be shy. Look me up. I might be able to interest you in one of my research projects in nuclear physics or biophysics, or you might be able to help me with my research on the construction of virtual university classes on the Internet.

MSU is a big place with lots of opportunities. We offer over 160 different subjects you can major in, from Accounting to Zoology, including many you may never have heard about. Eventually you will need to pick one. Almost no other decision in your life is more important than this one. Choose with great care! Check out several different subjects, inquire about career possibilities, work loads, degree requirements. Don't restrict yourself to subject area interests you may have had when you entered MSU. The academic world may be much bigger than you originally imagined. Don't place too much emphasis on earning potential when you chose a major. And don't select a major or plan a future career to please somebody else. Ask other students about their reasons for selecting majors. Make a point to even ask those with majors that you are convinced you will never select. Who knows, you may find a totally new way of thinking about career options. Most important: Find a subject you truly love, and then try to become as good in it as you possibly can. If you can accomplish this, your career will become your hobby, too, and twenty years from now this simple fact will make getting out of bed to go to work a pleasure rather than a chore.

Now, it may happen that you realize after a while that you picked a major that is not right for you. Don't make the mistake to "ride it out" simply to obtain your degree in the shortest possible time. On the other hand, don't switch too hastily. Just about every goal worth fighting for is difficult to obtain. Please keep this in mind.

While picking a major means a degree of specialization, make sure you also get a broad education here at MSU. Include eclectic courses outside your own college in order to broaden your horizons. If you decide during your undergraduate years that further study interests you, you will find that most scholarship/fellowship selection committees value widely-educated applicants. Whether you want to become a Rhodes Scholar or not, it makes sense to learn

as much as you can here at Michigan State. This may be the last time you will have to pursue studies that are remote from your career goals. Sydney J. Harris, the American journalist and author (1917-1986), perhaps said it best when observing that "The primary purpose of a liberal education is to make one's mind a pleasant place in which to spend one's leisure." Who knows, you may be the person who can establish new links between what seem to be very different subjects. Great numbers of astounding academic careers and profitable businesses have started out just this way.

To make sure that you do not get lost, we have assigned you an academic advisor. It is the advisor's job to help you navigate your way through MSU and to develop your full potential. Make a point of seeing your advisor more than once a semester. Come graduation time, you'll thank me for this advice. While your advisor can help you decide what to study, an equally important part of your education will be learning how to study, how to become an active, lifelong learner because learning will definitely not stop when you leave MSU.

You should not expect to obtain lifelong employment from the knowledge you acquire at MSU alone, so it is important for you to learn how to learn independently and as a member of a team. Go ahead and experiment with different techniques. Don't be shy about asking others about their own learning styles. It is much more important to learn how to ask new and important questions than to answer the questions you are asked in your classes. Only if you can learn how to acquire new knowledge and skills will you be able to have a successful career and a rewarding personal life.

Try to establish your own philosophy in life, but be flexible in this goal. Learn to meet everything that ends in "ism" with a good portion of skepticism. Many people you meet in life may have the potential to help you toward this goal, to be your teachers. Learn to listen to them. The further away their point of view is away from yours, the better. The benefits of engaging in meaningful dialogue with others whose viewpoints oppose yours cannot be exaggerated. Galileo Galilei once said: "I have never met a man so ignorant that I couldn't learn something from him."

In addition to learning opportunities on the campus, MSU offers an incredible number of opportunities to spend an extended period in a foreign country: to study abroad. I urge you to take a very serious look at these. Most students who study abroad are enthusiastic about their experiences. Let me also tell you about my own experiences with studying in another country. Almost twenty years ago I came to the USA from Germany as an undergraduate exchange student. This one year of study abroad changed my life. I met my future wife, made lifelong friendships, saw my field of study, physics, in an entirely new light. I even decided to immigrate to the United States. Your experiences will surely be different from mine, but most likely they will be equally rewarding.

I think I can predict some of what the next four or five years will have in store for you, and most of it is very exciting. There will be nights when you will work frantically to beat a term-paper deadline. I would recommend strongly against this work habit, but from my own experience I can predict that there will be times when this will happen. (Actually this very letter to you is due tomorrow, and as I am writing, it is almost midnight.) More likely than not you will establish new relationships that will stay with you for the rest of your life and you will drift away from some people with whom you never thought you would lose contact.

Chances are you will enjoy living on your own at first for some or all of the wrong reasons, then you'll wish you still were living with your parents, and finally you'll enjoy living on your own again. But this time (hopefully) for all the right reasons! You will probably eat too much fast food, experience some exciting moments as a fan of our great athletic teams, maybe play some intramural sports yourself, find a role model in a faculty member or teaching assistant, take a job at the mall or in a restaurant to finance your tuition, and accomplish lots of incredibly hard academic work. Hopefully, you will do all these things with more triumphs than disappointments.

In just a few short years that will have passed much too quickly, you will sit in Breslin Center, all decked out in green, listening to "Pomp and Circumstance." As you walk across the stage to receive your degree, you will realize that your years at MSU have been the greatest in your life. Since I am delivering these graduation remarks to you now rather than then, I want to offer you one more piece of advice in advance, and I hope that you take advantage of it while you can: The next four or five years at Michigan State are likely to be among the greatest in your life. Make them count!

Best wishes,

*Wolfgang Bauer
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Department of Physics and Astronomy*