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Commencement Address
The University of Alabama in Huntsville
December 9, 2011

It's an honor for me to deliver your commencement address. I sat in your seat a few years back, and since then I have participated in about 25 commencement ceremonies. So, I have heard a number of commencement addresses. I can honestly say, I remember little about them, even one delivered by a sitting president of the United States, other than they are always too long. So, unless I say something astoundingly original and profound, which is unlikely, I doubt that you will remember what I have to say today, but you will remember the day, which is what is important.

This day is important for you, and for those who supported you. It recognizes the effort you put forth and the sacrifices made to come to this point. You can be proud that you are here today. This is a great university, and your degree will have currency in the market. From its beginning in 1950 when the first classes were offered at the University of Alabama in Huntsville, then an extension center of the University of Alabama, to 1961 when Dr. Wernher von Braun secured funding from the Alabama Legislature to establish a research institute, to UAH's successful 1973 materials science experiments performed aboard Skylab, to the world's first pictures in 1999 of individual molecules forming the nucleus of a crystal, your university has grown to be classified by the Carnegie Foundation for the Advancement of Teaching as a Very High Research University, one of only 73 such public universities in the US. You have learned from some very distinguished faculty, and UA Huntsville has produced some notable graduates. John Hendricks, Founder and Chairman of Discovery Communications, which hosts shows on the Discovery Channel, Jan Davis, a three-time Shuttle Astronaut, and Stephen Zelnack, Chairman and Chief Executive Officer of Martin Marietta Materials to name a few.

I have good reason not to remember the commencement address delivered at Purdue University when I received my bachelor's degree. It was on a Sunday, a June the 7th, in West Lafayette Indiana, where Purdue is located. I remember the date very well because the day before in West Lafayette, Beth and I got married. And, if you haven't learned yet, you will, that misremembering your anniversary date is not good. So I remember June the 7th because it is one day after June the 6th, which I have to remember. I hadn't planned to attend commencement. But when I told my father at the wedding reception that the next morning we were going to start driving to California where I would be attending graduate school at Berkeley, my father responded, "I'm going to commencement, and so are you!" I guess bad planning on my part. But planning does not always work out, because "stuff happens" that you can't predict.

You put in a lot of effort to be here today, and I'm confident you received in return an outstanding education at the University of Alabama in Huntsville. Hopefully we inspired you to think big, and hopefully you will take away some experiences and lessons for life that will impact your future work. These lessons come in various forms, and you don't even know about

them or what their impact will be until you reflect years later and see how these experiences and lessons coalesced to guide your path. Some of these experiences may have seemed at the time to be downright awful, and others rewarding. Either way, you will come to rely on them. Steve Jobs, co-founder of Apple and Pixar Animation Studios, in a seminal commencement speech at Stanford in 2005 noted that "you can't connect the dots looking forward, you can only connect them looking backwards." His dots are the experiences and lessons learned that wind up to be some of the important pillars of your approach to life and work in the future.

I recall in my first year at Purdue, I was taking a calculus class, the first calculus class that all engineering students took. I had no idea what I was doing. After a few weeks, the instructor returned a quiz with a note at the top, "perhaps you should choose a different course of study!" A little devastating. I had to figure out what to do at that point. My assessment was that there are a lot of smart people sitting around me. One path was to quit; I didn't want to quit. Another was to get smarter. I didn't know how I could get smarter. So, I decided to try and distinguish myself from the others by hard work. So, hard work it was. I struggled for a while, but eventually the hard work paid off. I had not planned on doing poorly in the beginning of calculus, in the beginning of a college career, but, "stuff happens." That experience, although I did not know it at the time, would stay with me and be a lesson that would turn out to serve me well.

I recall as well my experiences in thermodynamics. Many of you took courses in thermodynamics, and, I would venture to say, many of you did not like thermodynamics. But, for me, for some reason, I thought the subject rather simple. There are actually only a few principles you have to grasp to apply the subject. But, it is very powerful. Simple is good. Albert Einstein said "You do not really understand something unless you can explain it to your grandmother." It was the coupling of the powerful with the simple that was fascinating.

Knowing that thermodynamics had the reputation of being difficult, my approach was to apply the hard work principle and work every problem in the book. The lesson is that practice does make perfect. Malcolm Gladwell, journalist for the Washington Post and writer for The New Yorker, in his book Outliers, contends that a key to success in any field is to practice a specific task for at least 10,000 hours. I can't tell you I worked 10,000 hours of problems in thermodynamics, but I can tell you that to whatever extent I practiced, it paid off. Hard work on task is an important element of success. Looking back, another lesson that served me well.

Whatever experiences and lessons you put to work along with your knowledge, your best path forward is one of respectfulness and honesty. To see the consequences of bad behavior, all you need to do is open the paper and read about recent events in the financial sector. It will always catch up with you.

As you move forward to your next chapter, and are able to look back, you will see how your experiences, your dots, become connected and shape what you do and how you do it in the future. Use the tools, what you have learned from your experiences, the knowledge you have

developed, to think big. Mark Twain once said "You can't depend on your eyes when your imagination is out of focus." To think big, you have to imagine, to look beyond what you see you have to dream about what is possible not what is not.

I started with a quote from Steve Jobs. Let me finish with one. "You have to trust that the dots will somehow connect in your future." You may not know exactly how things will evolve for you, but rest assured you that you have the tools and experiences, so, as Steve Jobs said "trust that the dots will somehow connect." Use your imagination and think big, about what is possible and not what is not.

Congratulations and best of luck on your journey to the future.