

Good afternoon. When Dr. Rea invited me to present the commencement address for the summer graduation, like most commencement speakers, I was a little unsure about what I could say to you that you would consider meaningful. And just so you know, I have sat through 30 graduation ceremonies right over there in the faculty seats. I do understand the importance of brevity.

So, my first idea was to bring a bag of red and blue Mardi Gras beads, toss them out, say congratulations and sit down. I actually discussed this with some of my colleagues, and they thought it was a great idea. (They have sat in these faculty seats too.) But some of them said it didn't go quite far enough. One colleague in particular suggested that I get my Louisiana Tech umbrella, walk out among you, get a second line going, and lead you right out the door. That perhaps would be one of the most memorable graduations in Louisiana Tech history, but I'm not sure what Dr. Rea would do with all these diplomas up here. So I reconsidered and came up with a few things to say to you that I do hope will be meaningful. Still, I promise I will be brief.

We are here to celebrate your accomplishments – the long-awaited result of your perseverance and late-night study sessions. But this is also my last chance to challenge you – my last chance to tell you why I believe it was important for you to have been here in the first place, and hopefully to give you some advice about your next step along the journey. It's also my last chance to give you an assignment! I'm a professor; it's what I do.

I believe there are two primary reasons for you to have taken the time and effort to get a college education. One is to make a better life for yourself and your family. And the other is to make a better world. A couple of years ago the National Academy of Engineering issued a set of 14 challenges that they refer to as the Grand Challenges for the 21<sup>st</sup>

Century. These are big, significant national and global issues of our time such as (1) finding a solution to our energy needs, without damaging our environment, (2) securing cyber space, (3) providing access to clean water, (4) improving health systems, and (5) advancing personalized learning.

Incidentally, faculty and students at Louisiana Tech are working hard on all of these challenges. Perhaps some of you have already had the opportunity to work in some of our research labs searching for solutions to these problems. Many of you will spend your careers working to solve these and other significant concerns that we face as a society.

Please don't think I'm talking only to the engineering and science graduates. As with most real problems, these issues are far too complex to be solved by one person, or one discipline, or even one approach to problem solving. Solutions to these Grand Challenges will require contributions from engineers and scientists.....and teachers, and lawyers, and entrepreneurs, and politicians, and ultimately a well-educated populace. All of you are involved in helping us move in the right direction. And in some of these areas, we need to move very quickly.

One of the things I hope you all have learned here at Tech is the value of multidisciplinary collaboration. It is a hallmark of this university. You can't know all the answers yourself, but working together across disciplines, you can generate creative solutions that would otherwise be well beyond your grasp.

So, how do you start? What's the next step? Well, to me, the next step is your job. (And incidentally, your job may be graduate school or medical school or law school or the military or the Peace Corps.) You can't solve all the world's problems next year, but you can be successful at your job

this next year, whatever that job is. And that's the first step toward making a better life for yourself and your family and building a better world. So what are the things you need to do to be good at your job?

Here's my short list – three very specific things that I'm asking you to do as you begin your new job.

*First Thing* – Respect the people you work with – *all* the people you work with. Respect is one of the *12 Tenets of Tech* – you know those posters over in the Student Center that identify characteristics we expect all of our students to embody.

Let me to give you an example of what I mean by respect and how important it will be in your work environment. Some of you are graduating with a degree in chemical or mechanical engineering, and you already have a very good job lined up at a chemical processing facility. In your new job you will likely work with, perhaps even supervise, someone who is in charge of a particular processing unit in that chemical plant. He has worked at that job for the last 20 years or so. In all likelihood that individual did not have the opportunity to get a college education. He does not know how to set up a mass balance calculation on Mathcad or solve a differential equation. He does, however, know more about that specific processing unit than you will ever know. Give him the respect that he deserves. Aside from the fact that it's just the right thing to do, befriending that gentleman could be one of the best career moves you will ever make. Learning from him and working collaboratively with him will help you do your job much better than you could ever do it on your own.

Similar scenarios apply to other jobs. For those of you who will start your first teaching position in the next month or so.... (First of all, thank you for choosing that career field. There is no more noble or important career

than teaching.) My suggestion to you is make friends with the secretary. In any organization, nobody knows more about how to get things done than the secretary. That person deserves your respect.

So here's your first assignment. It's an easy one. Your first day on the job, pay attention to everyone with whom you will be working, not just your immediate supervisor. Say "thank you" to the janitor who empties your trash can. Take a box of donuts to the machinist who told you that the part you just designed on your computer won't work. You get the idea. In general, show everyone the respect that you expect them to show you. Just for practice, you might make one last walk through campus. If you see one of the grounds crew working in the quadrangle, tell them "thank you" for creating such a beautiful place to walk every day.

*Second Suggestion* – Communicate effectively. How many times have you heard your professors emphasize the importance of effective communication? Every one of you had at least two English classes and one speech class; many of you had a technical writing class. You've made so many presentations in your discipline-specific courses that you've probably lost count. And still he's talking to us about communication! It's because it really is that important. Again, I have something very specific in mind. And by the way, I can't take credit for this idea. This one is from my good friend and colleague Dr. Galen Turner, Professor of Mathematics. But I thought it was too good an idea not to pass on to you, so I asked him for permission to use this.

Once again, I'm thinking of your first day or first week in your new job, or in graduate school. The work place today, just like college, relies heavily on communication via email and texting. Early in your new job, you will have the opportunity to respond to an email from your immediate

supervisor, and possibly the head of your division or even the head of the entire company. Here's your assignment. For your first several emails, write them as carefully as if you were sending out a formal letter requesting a job interview. Use an appropriate salutation and closing; use impeccably correct grammar, spelling, and punctuation. Proofread. Avoid text message jargon at all costs!

Here's what will happen. You will, in a very professional and unpretentious way, set yourself apart from all the other new hires. If you are writing to individuals whom you have not met, they will probably think you are several years older and more experienced than you really are. This is not just idle speculation on my part or Dr. Turner's part. I have a brother-in-law who recently retired as a partner with one of the top accounting firms in the nation. Over the past several years, he and I have had had numerous conversations where he expressed extreme frustration regarding the lack of ability of recent college graduates to use correct grammar even in simple internal emails. You know how to do this! And it will make you stand out in a very positive way.

*Third, and last, suggestion* – Approach your job with creativity. Are you creative? Of course, you are! And I'm not just talking to those of you who are getting a degree in art, theater, music, architecture. All of you are creative. Why is this on my top-three list of suggestions for you? Two reasons. The first reason is that real problems require creativity. Solving the world's energy problems will require a multidisciplinary approach – where individuals respect each other's ideas – and communicate effectively – and are not bound by the same old standard approaches to solving problems. Grand challenges require creative solutions. The second reason is because this spark of creativity that's inside each of us is an essential part of what makes life better for you and your family. We all

need to continually cultivate it. That's why a fine art appreciation course is in everyone's curriculum.

So just in case that course didn't have the intended effect of lighting that creative spark in you, here's one more chance. Your last assignment is to get a CD of Beethoven's ninth symphony. Listen to the entire symphony, but first I want you to focus on the 4<sup>th</sup> movement. You know this music as Ode to Joy; some of you know it as a hymn. But unless you have heard it with full orchestra and chorus, you haven't really heard it. So what I want you to do is get the CD, find a quiet place where you can sit undisturbed for about 25 minutes.... at night with all the lights out.... headphones on... sitting in a comfortable chair or perhaps lying on the floor. The point is to allow yourself to be completely absorbed into this most astonishing piece of music. It will move your soul, and it will show you what incredible beauty the human spirit is capable of creating. That's not a bad reference point for interjecting creativity into your job and into all areas of your life.

So.... you've worked hard to get here. Good luck wherever you're going next. Go make a good life for yourself and your family. And begin thinking about how you can contribute to building a better world ..... and congratulations!