It’s been almost 28 years to the day that I graduated from UCSB.

Having given a few speeches in the past, I’ve come to realize that commencement speakers are often about as much fun as paying your tuition bill.

Both my wife Adela and I should know since we have 5 kids of our own!

So, acknowledging this fact - I’ll try my best to make this short but hopefully memorable.

Even though this may be the final phase of your education experience here at UCSB it is my hope that wherever your journeys may take you, UCSB will remain an integral part of your lives and that from time to time, like any good family member, you will come back and visit often. Especially if you become the next Bill
Gates or Mark Zuckerberg!

As engineers and scientists, I like to think of us as an agent of change to our world. But changing the world can happen anywhere and anyone can do it. Sometimes for the better and sometimes for the worse. We only have to go back a few weeks and remember what happened here in IV to realize how just one individual can change it for the worse. Our thoughts and prayers go out to the victims and the families of the victims in these trying times for them.

Focusing back on your achievements, I am confident that the talent that is out here today can change the world, but the question is?what will the world look like when you change it?

Well, I am confident that it will look much, much better than it looks today. If you humor this old Gaucho for just a moment, I have a few suggestions that may help you on your way to a better world.

These suggestions are encapsulated in a five-ingredient recipe given to me by my father - I can assure you though that this recipe can be applied by anyone.

It matters not your gender, your ethnic or religious background, your orientation, or your social status.

Our struggles in this world are similar and the lessons to overcome those struggles and to move forward will apply equally to all.

I'm a prime example. You see, I come from a typical migrant farm working family. What's a typical farm working family you ask?

Well, let me paint you the picture. Each year around the February time frame, my father would pack us four kids and Mom in the car and we would make a two-day trip from their hometown in central Mexico to Southern California. We would stay a couple of months while my parents worked as farmworkers and then move to Central California. Again we would stay a couple of months and move to Northern California. Basically following the harvest.

While at these places, we would always attend school Monday through Friday. But when the weekends and summers rolled around we were there hand-in-hand working with our parents to help with the family income.

November would roll around and we would return to Mexico with three months worth of homework in hand as we self-studied while in Mexico. February would arrive and the process would repeat itself.

Not a very conducive environment to get a good education. It was not until my second grade teacher, Ms. Young, came to our house to convince my parents to change their nomadic migrant lifestyle. This was when we finally started to call Stockton, California home and our education started to get more traction.

This time period coincided with the tail end of the Apollo era. This was of course when the United States was sending humans to the moon.

Like any 10 year old of that era, I dreamt of becoming an astronaut.
Perhaps the best thing I could have done during that time was share my dream of reaching for the stars with my father.

Upon sharing this dream, my father, who only has a 3rd grade education, took me to the kitchen table, sat me down and told me about his 5 ingredient recipe.

If you want to reach for the stars he said, the first ingredient is to define my goal and decide what I wanted to be when I grew up: I of course had the fresh images on my mind of the last Apollo mission, Apollo 17. I recalled the images of Gene Cernan walking on the surface of the moon, talking to mission control Houston and the newscaster, Walter Cronkite, narrating the mission. These images are what inspired me to want to become an astronaut.

If you want to reach for the stars he said, the second ingredient is to recognize how far I was from my goal: I thought about it for a while and without thinking told him that I probably couldn?t be any further away given our social-economic status. Instead of getting mad at me he gave me a smile and said: I?m glad you recognize this because?.

If you want to reach for the stars he said, the third ingredient is to draw yourself a roadmap from where you are to where you want to be. This roadmap should have as much detail as possible and will serve as your guide throughout life.

If you want to reach for the stars he said, the fourth ingredient he is to prepare yourself with the appropriate level of education. He went on the say that there was no substitute for a good education.

Finally, if you want to reach for the stars he said, the fifth ingredient is to develop a work ethic second to none. He reminded me of how hard I worked in the fields during the weekends and summers and pointed to my books and asked me to put that same effort in my studies and that upon graduating college to put that effort in my job. Always, always, he said give people more than what they expect. This should be your normal mode of operation.

Mix all this he said and this is the recipe to reach for your stars.

I remembered going to bed so happy that evening because my parents thought I could become an astronaut therefore I was determined to become one.

Perhaps a sixth ingredient I would add to my father?s recipe is perseverance. You see, I?m here to tell you that NASA rejected my astronaut application not once, twice three or even six times but 11 times! It was not until my twelfth attempt that I finally succeeded in becoming an astronaut.

In having perseverance, I learned that you must typically go through three stages to reach a goal.

The first stage is to meet all the minimum requirements to reach your goal. In wanting to become an astronaut, I acquired the minimum requirements as I had my degrees in science or engineering and five years experience as a scientist/engineer.

Six years passed as I faithfully filled out, on an annual basis, my NASA astronaut application. Each year was the same, I would receive a form letter, not even addressed to my but rather, ?Dear Applicant?.
It went on to explain that NASA receives more than 4,000 qualified applications each year and that they could only select 100 finalist for further consideration and that unfortunately I was not one of them.

They of course invited me to reapply the following year, which is what I always did.

After the 6th attempt, I discovered the second stage of reaching your goal. The second stage is that you must acquire the same attributes of the people you want to be like. This is when I asked my self a basic question: What do the people that just got selected as astronauts have that I don?t have?

The first year I did this exercise was simple, they were all pilots?I wasn?t a pilot, so guess what, I started taking flying lessons and became a pilot. Another year I saw that most of them were SCUBA certified?.I wasn?t SCUBA certified, so guess what, I got basic, master and SCUBA rescue certified. I wanted to make sure that NASA knew that I was SCUBA certified!

The lesson here is that you want to be like them, you need to study the Bill Gates? and Mark Zuckerberg?s of the world.

The third stage of reaching your goal is to take advantage of opportunities that allows you to differentiate yourself from the competition. In the mid 1990?s I read in the news that the United States and Russia had just signed an agreement to build what was to be the International Space Station. It didn?t take a rocket scientist, even though I was one, to figure out that we were in the near future going to work with the Russians in space.

So when a job came across my desk at Lawrence Livermore National Laboratory that involved a lot of travel to Siberia and work in the nuclear nonproliferation arena, I was quick to volunteer for the job. Why? Well I can assure you it wasn?t because I wanted to get to know the Siberian countryside in the middle of winter! But rather because I could now go to my boss and ask for a one on one Russian language instructor so I could learn Russian and do my job more effective! Hence, *Ya ponemayu pa Ruski yazik!*

This new skill helped me differentiate myself from the rest of the competition.

All of a sudden I received a letter from NASA, this time it said: Dear. Dr. Hernandez, congratulations on being one of the 100 finalists! We will schedule you for a one-week visit to the Johnson Space Center where you will go through a series of medical, psychological, and aptitude tests and interviews.

Well even though I passed the medical, aptitude and to my wife?s surprise, psychological tests I?m here to tell you that it took me three tries in being on the final 100 list before being selected as part of the 19th class of astronauts in 2004.

This was a journey that started as a 10-year old and took 32 years to reach. It wasn?t a journey of one man?I took my family along and they happily propped me up when I needed it. I had co-workers who mentored me, professors like Dr. Sanjit Mitra here at UCSB who prepared me, and support programs like MESA and the MEP programs, also here at UCSB, that without them I couldn?t have possibly succeeded. I also had advocates in NASA?In short; I had plenty of help and support along the way.
The message here is don’t take on the world or change the world alone. There are plenty of people that want to see you succeed so please don’t be afraid to accept their help along the way.

To the graduating class of 2014, you are moments away from graduating. Moments away from beginning your journey through life. Moments away from starting to change the world for the better.

It will not be easy. But YOU are the class of 2014—the class of engineers and scientists that will be an agent of change.

Know that life will not be fair and that you, like I, will fail often. But don’t be afraid to take calculated risks, operate out of your comfort zone and never, ever give up—If you do these things, then the next generation and the generations that follow will live in a world far better than the one we have today and—what started here will indeed have changed the world—for the better.

Thank you very much, Muchisimas gracias and Go Gauchos!

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