

Graduate Commencement Exercises Keynote Speech

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President Khuri, fellow faculty, distinguished guests: I feel all at once honored, humbled and elated. AUB has always been part of my soul and identity. I will be eternally grateful and will always treasure this very special occasion.

AUB graduates of 2019: I salute you and I congratulate you for graduating from the very best university in the world, the American University of Beirut!! Join me in a big cheer for AUB (Applause).

A graduation address should include some mixture of personal anecdotes and sage advice, so I'll start by sharing with you a story very dear to my heart about my early days at AUB. The story is about Salwa Nassar. If any of you, today's graduates, know or have heard of Salwa Nassar, please raise your hand. Very few, not surprising.

Salwa Nassar was born in 1913 and attended Brummana High School—which I also attended, however, many years later. **She was the first woman student in the Mathematics program at AUB**, and went on to be the first Lebanese woman to earn a PHD in physics, and from a very prestigious school, The University of California at Berkeley.

At AUB, I majored in physics, and in my sophomore year in 1962 I enrolled in a course entitled Quantum Mechanics. The course was highly dreaded by students because the math was unwieldy and the physics of how atoms populate electrons in quantized energy states was unlike anything I had ever seen before. But the instructor was Professor Salwa Nassar, and that made all the difference. The way she explained atomic physics was nothing short of enchanting. She definitely enchanted me and I will forever be grateful to her for opening my eyes to how lasers work, how transistors and integrated circuits are designed and built, and how the universe started with a huge big bang of zillions of hydrogen atoms.

A year after I graduated from AUB in 1964, Professor Nassar became President of BCW, Beirut College for Women, which later became co-educational under the new name "The Lebanese American University". Unfortunately, Professor Nassar died from Leukemia two years later, in 1967, at the age of 54, but her legacy will live on forever. **Please join me in saluting the memory of a great Lebanese scientist and AUB graduate**, Professor Salwa Nassar. (Applause)

The moral of the story is: **Be true to yourself and follow your dreams.** As AUB graduates, each and every one of you has the education, the training and the skills needed to succeed and to realize a legacy like that of Professor Nassar. But always remember the famous words of Thomas Edison: "**Genius** is one percent inspiration, ninety nine percent perspiration."

Standing here today, I can't help but reflect on the huge transformation the world has undergone since I was here at AUB 50 years ago. Not only do we have zillions of cell phones, cameras, computers, social networks, and a whole host of weird names added to our vocabulary—like hashtag and emoji, the far more astonishing change is the population density of planet Earth. 50 years ago, the world's population was 3.6 billion people. Today, the world's population has more than doubled to nearly 7.7 billion, so the question one might ask is “How did the world manage to double its productivity in agriculture, in energy generation and distribution, in transportation, and in just about every other aspect of what makes society function, from training health professionals and teachers to producing lawyers and bankers, everything needed to support such a huge increase of 4.1 billion people? Who, or what, made such a miracle possible?” Not only has the world's population ballooned by several billion people, but the quality of life has also improved quite substantially. Consider life expectancy. Because of better nutrition, hygiene, and huge advances in medicine, facilitated in large measure by a field near and dear to my heart, namely the field of electronics and computers, global life expectancy has increased by 8 years since 1990, with women making slightly greater gains than men (surprise surprise!!). If trends seen over the past 23 years hold, by 2030 global female life expectancy will be 85.3 years and male life expectancy will be 78.1 years. Just for reference, the 2017 life expectancy was highest in Monaco at 89.4 years, followed by Japan at 85.3 years, the US and Europe are in the 80-82 year range, Lebanon is at 78 years, and the list goes on down to the bottom group of Somalia and Afghanistan at 50-52 years. It's a huge spread, but even in Somalia and Afghanistan, the life expectancy increased by 6 years over the past 30 years. Measured in days, our global life expectancy is increasing by about 6 hours every single day!! So I repeat my question: who made all that possible?

We may offer many different answers, but the overarching common denominator to all answers is: It is the college graduates of the past 50 years that have collectively transformed modern society into its present form and literally **saved** the world from starvation and war.

We still have many millions of people starving and in abject poverty, and we still witness mini wars here and there, but the competition for resources would have been far far worse had it not been for the transformation led by a group of highly motivated, self-disciplined, well-educated and well-trained individuals comprising no more than 5% of the world's population.

I speak, of course, of college graduates like yourselves. They saved the world of yesterday, and it is your challenge and duty to save the world of tomorrow. When you graduate from college, especially from a high-caliber school like AUB, you deserve to be congratulated for your very special accomplishments, but you all also carry with you a social responsibility. Your degree is your very own achievement and no one will ever take that away from you, but that degree also represents society's investment in you.

The fraction of adults who hold a college degree varies widely across the globe, from a high of 54% in Canada, to 44% in the United States, 30-42% in Europe, 17% in China, 10% in the MENA countries—that is, the Middle East and North Africa, and under 5% in many other countries. For the world as a whole, the fraction of the population that holds a college degree today remains relatively small at 6.7%, but that number represents a rate of increase of 40% over the past 20 years. Each and every one of you graduating here this afternoon is part of this very special group. The world population is expected to reach 10+ billion people by 2050, and that's only 31 years away. Your challenge, together with fellow graduates the world over, is to figure out how to support a population increase of 3 billion, while simultaneously dealing with grand challenges like global warming and the root of all wars and conflicts: extreme wealth disparity.

Carrying such responsibilities on your collective shoulders should not detract you from achieving your own dreams. In fact the two are intricately linked together. Your individual successes combine and integrate into a huge societal success.

In closing, I say to the AUB graduates of 2019: I believe in you, and I know deep in my heart that you will prove to be highly successful professionals and a source of pride and inspiration to your families, to your communities and to AUB. Go forward and **work together** to make the world a better place.

Thank you