Ambassador Barbara M. Barrett
Embry-Riddle Aeronautical University Prescott
Fall 2015 Commencement
December 12, 2015,

Thank you, Dr. Ayers. Under your capable guidance, Embry-Riddle has grown in its reputation for excellence in cyber-security, science, aviation and business education.

Proud parents and family, distinguished faculty, administration and staff, friends of ERAU and, most of all, Graduates: we are here on this special Prescott morning to celebrate your academic success and your bright professional futures.

Today also, Embry-Riddle Aeronautical University celebrates 90 years of unparalleled accomplishments, both in academic preparation and alumni achievements.

Graduates, when you applied to Embry-Riddle Aeronautical University, you had choices and you chose a demanding journey. You knew there were easier paths, but you chose to pursue the more challenging route. Your presence in cap and gown today demonstrates that you have embraced these challenges, and you conquered them.

Embry-Riddle offers a world class education and post-graduation benefits that mean your ERAU credential will retain its value and will serve you well. People are noticing ERAU. You probably know that U.S. News & World Report recently ranked the Embry-Riddle Prescott engineering program among the top three Undergraduate Aerospace/Aeronautical/Astronautical Engineering programs in schools of its type in the country for the 13th consecutive year, and ERAU-Worldwide ranked in the top five online colleges. And graduates will take comfort knowing that Embry-Riddle Prescott was among the top 50 schools on Payscale's College Return on Investment Report. Post-graduation employment rates reinforce the value of Embry-Riddle's education: one year after graduation, a hefty 93% of ERAU graduates either begin grad school or are fully employed.

Beyond academic excellence, Embry-Riddle Aeronautical University's students make waves in other competition as well. Let's recap some recent highlights. Having already claimed nine national championships, the Eagles Flight Team took its 29th first place at the regional Safety and Flight Evaluation Conference this year. The Eagles soared to victory when the ERAU Phi Beta Lambda Business Organization won the Arizona Leadership Conference Competition, also for the ninth time. Embry-Riddle fields winning engineering teams in various arenas of competition across the nation, sending rockets into flight in Utah, controlling unmanned aircraft in Kansas and Maryland, and we anticipate that the Eagle Works electric car will shatter land speed records on the Bonneville Salt Flats by mid-2017.

In summary, Embry-Riddle builds upon its legacy of excellence by fiercely pursuing cutting edge education that will escalate the value of your degree and the prestige of the university for its next 90 years.

Speaking of legacies, you are commencing your life's journey of discovery at a pivotal time in the history of the aeronautics and space industry. Graduates, like many of you, I take a personal and professional interest in our exploration of space. Now, I know that not all of you went lock step from high school into college. Many of you have gained important life experience working, serving our country, and beginning families before or during your pursuit of this college degree. However, just for simplicity, let's consider those who took the traditional grade school, high school, college route to today's degree. I'd like you to join me (with the help of NASA's Jet Propulsion Laboratory) on a short stroll through the space industry's achievements while you have been in school.

Your experience may vary but let's say that you were in first grade in about 1999. At that time, if your teacher read you the news, he or she would have shared the excitement that the Hubble Space Telescope was, for the first time, showing us supermassive star clouds in the Milky Way partially unlocking the mystery of how stars are formed, and the giant Chandra X-ray Observatory was taken to orbit by the space shuttle Columbia.

In 2000, you and your second grade classmates may have marveled at the first crew of astronauts (Expedition 1) who flew on the Russian Soyuz spacecraft to go live aboard the International Space Station beginning the uninterrupted human presence on that orbiting laboratory that continues to this day.

In 2001, when you may have been in third grade, you may have heard about the launch of the Odyssey Mission to explore the surface of Mars, which then discovered ice, importantly water ice, on the Red Planet the following year.

When you were studying multiplication tables in fourth grade, Deep Space 1 survived a dangerous flyby of the comet Borrelly capturing science's first pictures of the nucleus of a comet, and Jason 1 launched its mission to observe the global interaction among Earth's atmosphere and oceans. At about the same time, the Mars Global Surveyor found signs of rivers and lakes on Mars.

Then, in 2002, maybe you were in your fifth grade math class mastering fractions or decimals, as the spacecraft Galileo completed its final flyby of Jupiter's moon, Amalthea, and later ended its 14 productive years in space when it hit Jupiter. And, in 2003, we first saw Earth photos taken from Mars by Global Surveyor – remember that iconic photo of Earth and our moon taken from Mars. The Gravity Recovery and Climate Experiment (GRACE) satellites mapped Earth's gravity fields and the Mars Rovers, Spirit and Opportunity, were headed to the launch pad for June and July launches.

Later in 2003, as you were beginning sixth grade and studying world geography, the Spitzer Space (infrared) Telescope was launched. The Galaxy Andromeda was first captured in a photo. Then in January, 2004 the space probe Stardust flew through the tail of a comet to capture space dust and transport the dust down to Earth for scientific analysis, Sprit and Opportunity

landed *on Mars* and by the end of your school year Cassini arrived at Saturn. Yes, that was a pivotal year of discovery!

You may have been fascinated by your seventh grade lessons in electricity and magnetism while in space Genesis explored solar winds. We discovered a previously unknown moon of Saturn and we landed a probe on Titan. Deep Impact was launched and rammed a comet!

When you were in eighth grade, Cassini discovered water geysers on one of Saturn's moons.

During your Freshman year of high school, Spitzer saw the distant glow of the universe's first objects, and Cassini sent a photo to Earth of Earth from Saturn and also found liquid lakes on Saturn's moon, Titan.

The year you likely were a sophomore, the Mars Reconnaissance Orbiter (MRO) caught the image of an avalanche on Mars, Phoenix made its successful landing on Mars, and back here on Earth, in a triumph of cooperation between popular culture and engineering excellence, JPL entered a float in the Rose Bowl Parade!

The year you may have received your driver's license, QuickSCAT (Quik Scatterometer) mapped Earth's ice patterns, the Spitzer telescope observed primitive black holes, Cassini found yet another surprise moon of Saturn, MRO obtained close-up images of Mars's moon, Phobos, Kepler-the-planet-hunter was launched and the Wide Field Planetary Camera 2 returned to Earth after rescuing the Hubble Telescope from its blurry vision.

When you contemplated your high school senior prom and made the wise decision to go to ERAU, the "WISE" Space Telescope launched on its mission to scan the sky for galaxies, stars and asteroids and, eventually, to search for near-earth objects while Odyssey created the most accurate map of Mars available to date.

In 2011, the year you may have come to Prescott as an ERAU freshman, Aquarius was launched on its mission to study Earth's salty seas.

And, as you were delving into your major as an ERAU sophomore, the Dawn spacecraft encountered the giant asteroid Vesta. Juno launched from Cape Canaveral on its epic journey to Jupiter, Kepler spotted the first Earth-like exoplanets and the nuclear "NuSTAR" embarked to investigate black holes.

When you were moving into your upper class courses at Embry-Riddle in 2012 and 2013, Curiosity landed on Mars, WISE discovered *millions* of black holes, GRAIL produced the most accurate moon map to date and Curiosity found news-making evidence that life sustaining conditions once existed on Mars.

In 2013 while you were deep in your study, and visualizing this day, Voyager 1 entered interstellar space, becoming the first man-made object to travel beyond our solar system. Then,

in 2014, Kepler found the first Earth-sized exoplanet in the Goldilocks zone, the Orbiting Carbon Observatory 2 (OCO-2) launched on its mission to study carbon dioxide levels in Earth's atmosphere and Opportunity set, not the world record, but the *off-world* distance driving record.

And this year, the Soil Moisture satellite "SMAP" set out to measure soil moisture on Earth, Dawn was captured, as planned, by the gravitational pull of Ceres to become the first spacecraft to orbit a dwarf plant, meanwhile, on Mars, Curiosity continued its climb up Mt. Sharp and WISE located the most luminous galaxy in the universe.

Ladies and gentlemen – while you have been assembling your personal education in grade school, high school and college over the past 16 or so years, scientists and engineers have been busy too. Space exploration is only one track of the aerospace and aeronautics genre, but in this track alone accomplishments in the past 16 years have been phenomenal!

In conclusion, you are in an exciting place at an historic time! Aeronautics and Aerospace are not industries for the fearful or the careless, but for the courageous and daring, for those who want to move humanity forward to tackle the grand challenges of our age. From drones to nanotechnology and from the telescope to the microscope, we live in an age of discovery in aerospace and aeronautics. Ours is an industry of new frontiers and discovery. All in all, it is an industry for you, an Embry-Riddle graduate.

Commencement marks a beginning. And this time of year is when great beginnings occur. Wilbur and Orville began powered flight in December. ERAU was founded in December. You begin your lives as ERAU alum this December. The journey you have chosen offers a golden path for personal advancement as astronauts and engineers, pilots and programmers, researchers, analysts, controllers and business professionals.

This Holiday Season, in celebration of all you have achieved, I hope you will carve out a couple hours and think about your values, your family, your faith, your friends, consider your education, your finances and your community. Ask yourself critical questions: Where do you want to go? What are the things you want to achieve? What do you want to build, cure, discover, or create? Who do you want to help? What do you want your life to mean?

You are leaders in your time and you are going great places. Your degree from Embry-Riddle will be just the ticket for the rest of your life's exciting journey.

Congratulations Graduates! And thank you.