ALTITUDE

THE OFFICIAL MAGAZINE OF EMBRY-RIDDLE AERONAUTICAL UNIVERSITY | SPRING/SUMMER 2022

WE'RE GOING TO THE MOON

AND WE'RE TAKING THE ULTIMATE SELFIE WHILE WE'RE THERE

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DID YOU KNOW?

Embry-Riddle Prescott's College of Business, Security & Intelligence (CBSI) represents the first comprehensive degree-granting college of its kind in the United States.

ALTITUDE

SPRING/SUMMER 2022

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EDUCATION OF A DIFFERENT ALTITUDE

AT EMBRY-RIDDLE, DARING TO THINK BIG ISN'T JUST IN OUR CURRICULUM — IT'S A WAY OF LIFE.

Since 1926, Embry-Riddle Aeronautical University has been the leader in aviation and aerospace education. Our programs are consistently ranked among the top degree programs in the nation, with several top 10 and number one rankings.

Embry-Riddle has been at the forefront of groundbreaking aeronautical milestones since the early days of flight. We are innovators in the fields of Applied Science, Aviation, Business, Computers and Technology, Safety, Security and Intelligence, Engineering and Space.

Embry-Riddle's mission is to teach our students the science, practice and business of aviation and aerospace, preparing students for productive careers and leadership roles in business, government agencies and the military.

Our students are a part of innovative research that has the power to change the world. With a focus on signature research areas, the university partners with industry and other key stakeholders to develop new insights and solutions for the challenges of today and the opportunities of tomorrow.

Embry-Riddle's faculty are leaders in their respective industries and share the knowledge they've gained from decades of higher-learning experience with our students to ensure graduates have a competitive edge in the workforce.

We are proud of our diverse student body representing the best young minds hailing from around the globe.

Our residential campuses located in Daytona Beach, Florida, and Prescott, Arizona, offer you the choice of a spectacular beach setting or a scenic mountain community. Our Worldwide and online options offer award-winning technology that leverages online and face-to-face instruction through a network of locations designed to support student advancement in the U.S. and abroad.

Put your passion into practice.

TRENDING

GET LOCAL

BACHELOR'S PROGRAMS

	FL	AZ	WO
Aeronautical Science – Fixed Wing	▲	▲	
Aeronautical Science – Rotary		▲	
Aeronautics	▲	▲	▲
Aerospace Engineering	▲	▲	
Aerospace Physiology	▲		
Aerospace & Occupational Safety	▲		
Air Traffic Management	▲	▲	
Applied Biology		▲	
Astronomy & Astrophysics	▲	▲	
Aviation Business Administration	▲	▲	▲
Aviation Maintenance			▲
Aviation Maintenance Science	▲		
Business Administration	▲	▲	
Business Analytics			▲
Civil Engineering	▲		
Communication	▲		▲
Computational Mathematics	▲		
Computer Engineering	▲	▲	
Computer Science	▲		
Cyber Intelligence & Security		▲	
Data Science		▲	
Electrical Engineering	▲	▲	
Emergency Services			▲
Engineering			▲
Engineering Physics	▲		
Engineering Technology			▲
Forensic Accounting & Fraud Examination		▲	
Forensic Biology		▲	
Forensic Psychology		▲	
Global Business & Supply Chain Management		▲	
Global Conflict Studies	▲		
Global Security & Intelligence Studies		▲	
Homeland Security & Intelligence	▲		▲
Human Factors Psychology	▲	▲	
Industrial / Organizational Psychology		▲	
Interdisciplinary Studies	▲		▲
Leadership			▲
Logistics & Supply Chain Management			▲
Mechanical Engineering	▲	▲	
Meteorology	▲	▲	
Project Management			▲
Safety Management			▲
Simulation Science, Games & Animation		▲	
Software Engineering	▲	▲	
Space Physics	▲	▲	
Spaceflight Operations	▲		
Technical Management			▲
Unmanned Aircraft Systems	▲	▲	▲

“The Mountain Spirit program is split into several small goals — each one consisting of a rocket that will break literal barriers of the ones before it.”

Raj Sadafule '24
Aerospace Engineering

I LOVE THE SMELL OF **ROCKET FUEL** IN THE MORNING.

Conceptual Illustrative Photographic Depiction

THE SPIRIT TO SUCCEED

Brought together by a shared passion for uncovering the universe and advancing technology, members of Embry-Riddle's Rocket Development Lab (RDL) are on a mission to make history.

In fact, they plan to be the first undergraduate program to reach space using a two-stage flight vehicle that utilizes both solid and liquid propellant systems.

Mountain Spirit — a multi-year program that encompasses propulsion, structures, aerodynamics, avionics and more — offers members a wide range of experience and is the organization's largest project yet.

Leading the RDL toward its goals is President Raj Sadafule ('24).

"Outer space has fascinated me for as long as I can remember," he said. "Wanting to know what's out there and my urge for solving problems creatively led me to aerospace engineering."

With the RDL offering multiple team projects for students to choose from, Sadafule is currently working to both design a new vertical rocket test stand and improve liquid oxygen tanks.

"Contributing to ambitious goals like these is what propelled me to become an engineer, so I am grateful to have the opportunity to attend a university with like-minded students," he said.

Early stages of the Mountain Spirit program are underway, including the finalization and launch of the RDL's first liquid-fueled rocket, "Altair," and the completion of Test Cell 4, the new vertical rocket test stand set to be completed in the Fall 2022 semester.

"The unique part about our undergraduate organization is the amount of invaluable, industry-like experience students get," Sadafule said. "Imagine saying you design and test rocket engines as a freshman in college!"

Scan here and see what we've been up to.

Now That's a View

Students in the Astronomy and Astrophysics program have access to a one-meter Ritchey-Chrétien reflecting telescope – the largest university-based research telescope in Florida.

Hot Jupiters

I am able to detect exoplanets the size of Jupiter from millions of miles away, and these 'Hot Jupiters' orbit sun-like stars at distances similar to Mercury orbiting our sun.

Giovanni Bacon '22

ASTRONOMY & ASTROPHYSICS

Passion for Planetary Science

Giovanni Bacon is a NASA-published co-author with research endeavors that are quite literally out of this world – all before he's even completed his degree.

Valuable internship experience in research and data collection at NASA's Kennedy Space Center and Goddard Space Flight Center fueled the Astronomy and Astrophysics major's dream of a career in space exploration.

Representing the College of Arts & Sciences as an ambassador for the Office of Undergraduate Research, Bacon currently studies extraterrestrial planets, or exoplanets, and their orbital properties using a one-meter telescope housed in the Observatory.

"This role has introduced me to many magnificent faculty, student-led projects at the university and new ways to share and conduct my research and help others do the same," he said.

Excelling

Bray created Excel spreadsheets to track NASA's budgets and communicated the results with contractors and civil servants at MSFC and other NASA facilities.

Master Eagle

Bray is continuing her Embry-Riddle education pursuing an M.S. in Project Management.

Hailey Bray '20, '22

PROJECT MANAGEMENT

BUSINESS ADMINISTRATION

Eagle Intern

Hailey Bray's internships opened doors to her future.

Her first internship was with NASA's Marshall Space Flight Center.

"Building confidence equally in my work and myself was a significant goal of mine," she states. "Gaining self-assurance allowed me to voice my opinions, have the ability to back up my own work and show others I can perform any task with the utmost completeness."

Bray also gained invaluable experience as a program management intern with The Boeing Company, where she found the company culture inviting and committed to her best interests.

"I found pride in my position because they provide an array of diverse possibilities to grow early in your professional career."

She knows being an Eagle carries weight.

"By obtaining my degree and having Embry-Riddle on my resume, it has already opened many doors for my professional career."

Predicting The Weather

Researchers at Embry-Riddle Aeronautical University are looking for ways to improve their forecasting and better predict the flash flood and severe thunderstorm events that impact Arizona.

Next Steps

The research group aims to outfit the Embry-Riddle fleet with sensor probes to collect important data related to temperature, humidity, wind speeds and more — all while students are conducting flight training.

Why UAS

"There is no playbook for UAS, which means that I am part of the generation that will write the rules for this exploding new field."

Bailey Cortright '22

UNMANNED AIRCRAFT SYSTEMS

New Perspectives

Unmanned Aircraft Systems (UAS) major Bailey Cortright is helping pioneer technology that will allow for faster, more effective predictions of monsoonal weather.

Cortright set out to develop and test new methods of understanding monsoon formation on an ultra-fine scale. Utilizing UAS allows for data points every few feet, whereas satellites may only collect data at kilometers or greater intervals.

He also presented key findings on data acquisition and visualization and networked with professionals at an American Geophysical Union event in New Orleans, Louisiana.

"I think I will draw on the experience from this research for years to come," Cortright said.

With goals of working in defense to develop surveillance and reconnaissance UAS after graduation, he is thrilled to be joining the industry at a time when there is still so much to be discovered.

Looking Ahead

I am incredibly excited for this opportunity and know that my experiences from these past two years in college will contribute greatly to my success.

Finding Her Way

This summer, Smith plans to intern for Garmin in Tucson, Arizona, where she will perform embedded systems work for the company's dog products.

› Kota

Aspen Smith '24

SOFTWARE ENGINEERING

Barking Up the Right Tree

As a Software Engineering major, one of Aspen Smith's goals is to help defend the people, software and data that keep our world safe and productive. She interned as an information security engineer for Intel Corporation last fall to get one step closer to that goal.

Smith was able to gain experience in upgrading software systems, automating processes and analyzing tools throughout her internship at Intel.

She learned a lot about balancing her decisions to take initiative individually and ask for help when needed.

"My internship with Intel gave me insight into what work I enjoy doing," Smith said. "I discovered that I enjoy automation more than I enjoy bash scripting and system maintenance."

Naturally Innovative

Harper's accomplishments don't stop at his day job. He also owns Harper's Hops — a natural hair and beard care business that utilizes beer hops in each product's ingredients.

Business is Hoppin'

Starting Harper's Hops was a way for me to give myself a crash course into opening my first business at a forgiving micro level.

Ryan Harper '19, '21, '23

AVIATION MAINTENANCE
BUSINESS ADMINISTRATION
ENGINEERING TECHNOLOGY

Engineering a Multifaceted Career

Ryan Harper is one busy student. After completing his A.S. in Aviation Maintenance and B.S. in Engineering Technology, Harper is now working on his MBA in Aviation.

Aside from his classes, he spends his days working as an engineer at Northrop Grumman, a position in which his bachelor's degree from Embry-Riddle has helped tremendously.

"Embry-Riddle helped with my career in engineering because it put me in a community with other aviation professionals from the very start," said Harper. "The instructors had Ph.D.s in aviation and engineering; some were career military pilots."

To fellow Eagles, he shared this advice — "Cling to your mentors, community and resources you have available and let change become your impetus, not your resistance."

Goal Oriented

McDonald's professional goal is to work as a guidance, navigation and control (GNC) engineer.

The Fundamentals

One of the IGEW modules was called Brush Bots and taught the fundamentals of electricity and circuits.

Carly McDonald '24

AEROSPACE ENGINEERING

Girl Power

Carly McDonald set her sights on encouraging more girls to pursue STEM careers.

McDonald joined the Society of Women Engineers (SWE) her freshman year and became involved with Introduce a Girl to Engineering Workshop (IGEW). The annual event, open to third-, fourth- and fifth-grade girls in Volusia County, Florida, aims to teach the fundamentals of different areas of engineering through discipline-specific modules.

This year, girls received a take-home bag with module-specific materials and instructions. McDonald's module taught basic aerodynamics using various paper airplane designs and stickers meant to simulate weight. Girls also had access to videos featuring influential female guest speakers.

"Embry-Riddle is helping me achieve both my professional and academic goals by providing numerous opportunities for all students," she said. "There's an organization for everyone."

MISSION POSSIBLE

Opening Doors for Latinas in STEM

When Aerospace Engineering major Michaelle "Michy" Ramos ('22) was two years old, she saw the movie E.T. and knew exactly what she wanted to do with her life.

"Mama, quiero ir al espacio" or "I want to go to space."

Her mother asked if she was sure because it could be dangerous, to which Ramos responded, "I'm not afraid. I'm going to make sure E.T. is safe."

Born to a Nicaraguan mother and Cuban father, Latin culture was instilled in Ramos throughout her childhood in suburban Georgia and remains paramount in her life.

Ramos immediately noticed the disparity between males and females and the lack of ethnic diversity in STEM camps she attended as a child.

"You do feel a little bit more out of place, especially not seeing Latinas in the field or people of color…any women in general," she said.

In 2020, women made up 28.8% of STEM workers, only 2% of which were Latina.* There's a need for more Latina representation in STEM, and one of the keys to accomplishing that is outreach.

Ramos' outreach includes visiting local schools and speaking about her STEM journey as a Latina and teaching topics in aerospace engineering. She sees the girls' excitement when she says she wants to be an astronaut. She knows she is "setting the wheels in motion for kids to dream bigger and reach higher than they think they can."

"The reason outreach is so important to me is because I never saw anyone like me, and I don't want young girls today to have that same experience," she said.

Ramos feels fortunate to be a student at Embry-Riddle where she sees more female and Latina representation in her classes.

"It's hard to be a woman in engineering anywhere, but it is easier here because we have so many women," she said. "That is impressive to me; we support each other here."

Ramos wants to continue telling her story throughout her time at Embry-Riddle and beyond, and she believes that if just one person is inspired, her efforts have been worth it.

Her end goal?

"Same thing as two-year-old Michy – I want to go to space," she said. "I want to make sure E.T. is safe."

*Forbes, 2021

AXFAB-ULOUS

Aerospace Experimentation and Fabrication Building (AXFAB)

Hands-on opportunities are at the heart of the AXFAB. Here, you'll find a collection of labs designed to provide the instruction, resources and equipment you'll need to turn your ideas into reality. The facility also houses a fully equipped machine shop with separate areas for welding, painting, machining and materials layout.

WHAT'S IN THE WORKS?

Students in our EagleSat Lab are currently prepping EagleSat 2, a spacecraft carrying dual scientific payloads that is set to launch later this year as part of NASA's CubeSat Launch Initiative.

In the Machine Shop, students are working to develop a satellite that collects data remotely to bring awareness of genocide and other crimes against humanity around the world.

"We're using this lab to create components for our testing payload, a Jetson Nano, and our testing platform, a quad configuration drone," explains Aerospace Engineering major Terra Gordon ('23). "It also allows us to store the batteries needed for the drone to fly."

A Fabulous Place to Work

Equipment in the AXFAB includes furnaces, mounting press, epoxy mounting vacuum system, grinders/polishers, an ultrasonic cleaner, various types of cutters and more, all designed to prepare materials for qualitative and quantitative analysis.

INFINITY & BEYOND

Payload Applied Technology and Operations (PATO) Lab

The Payload Applied Technology and Operations (PATO) Lab provides development, operations, design integration and testing support for space research payloads, as well as instrumentation for suborbital and microgravity flights. Research topics in the lab include designing, developing, testing and building science payloads and rockets that can be used as testing platforms for research experiments. This multidisciplinary research enables faculty and students from different disciplines to work together.

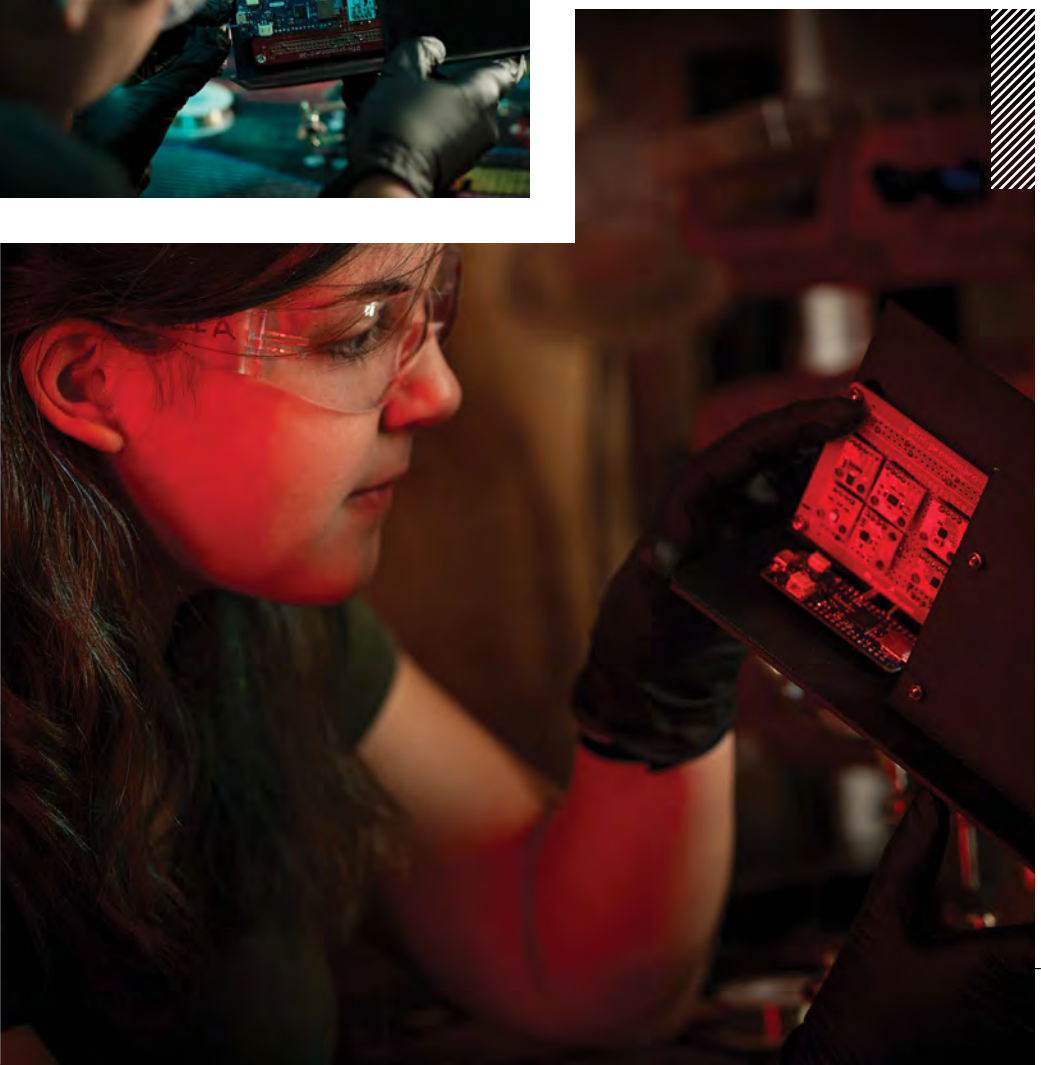
WHAT'S IN THE WORKS?

The Thermal Vacuum Chamber is designed to test if temperatures can be maintained in near-vacuum conditions that can sustain biological experiments.

The Magnetic Membrane/Coil Test is a collaboration with Carthage College, where the viability of using magnetic membranes is being tested alongside Helmholtz coils to minimize fuel sloshing in a rocket's tank during zero gravity.

Student researchers are working on constructing a Level 3 Rocket that will act as a research platform for launch, recovery and payload testing.

Testing is being completed for three payloads that will fly aboard Payload Aerospace S.L.'s MIURA-1 maiden launch. The payloads consist of a sloshing experiment, two avionics/telemetry NanoLabs and a shunts experiment.



An Unparalleled Learning Opportunity

Last summer, Embry-Riddle received a first-of-its-kind waiver from the Federal Aviation Administration (FAA), allowing Worldwide students to remotely pilot unmanned aerial systems (UAS).

Using online video platforms like Zoom, students now have access to fly sophisticated aircraft with complex equipment such as multispectral sensors and thermal cameras from anywhere in the U.S.

With the permission to utilize remote-split operations (RSO), Embry-Riddle students who may not be able to fly drones where they live have the opportunity to learn in a unique way.

> **"RSO introduces complex operational environments for our students to experience the importance of crew resource management, effective communication, aeronautical decision-making and airmanship principles."**

Dr. Joseph Cerreta
Associate Professor, Aeronautical Science

A STELLAR **SELFIE**

EagleCam will snap the first-ever photo of a spacecraft landing on another world.

In a historic space first, a CubeSat camera designed by student engineers at Embry-Riddle Aeronautical University will attempt to capture an image of the Intuitive Machines Nova-C Lunar Lander as it touches down on the moon.

The Nova-C, scheduled to be launched from the Kennedy Space Center atop a SpaceX Falcon 9 Rocket later this year, will carry the special camera created by the Embry-Riddle team. As the lander approaches the moon, the EagleCam will detach and freefall 100 feet to the lunar surface, where it will get busy snapping some out-of-this-world shots.

To give everyone an Eagle's eye view of the moon, EagleCam will employ three wide field-of-view cameras and will send the photos back to the lander via WiFi — a technology never before used on the moon and engineered entirely by Embry-Riddle students and faculty.

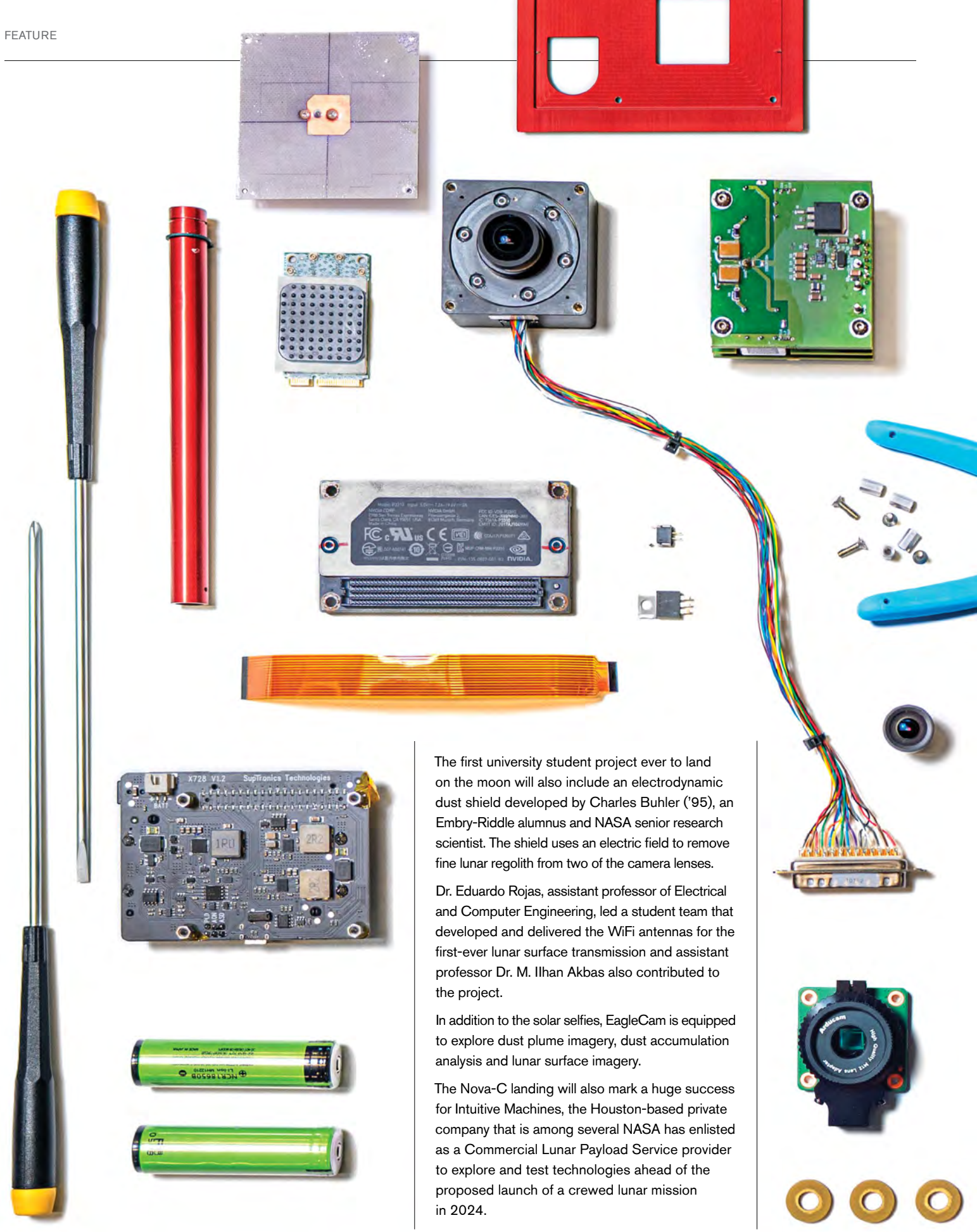
The unique project started in 2019 after Embry-Riddle alumnus and Intuitive Machines' founder Steve Altemus ('87) visited the school and challenged his alma mater to find a way to photograph the Nova-C as it made its extraterrestrial landing.

The miniature satellite camera system was engineered by an interdisciplinary team of Embry-Riddle students, led by Ph.D. candidate Daniel Posada. They were guided and advised by three assistant professors and supported by a national network of scientists.

"The development of this equipment has been a great opportunity for our students to get hands-on experience with a real spaceflight, applying theory from the classroom to hardware," said Dr. Troy Henderson, associate professor of Aerospace Engineering. "As a bonus: The experience also looks great to companies who are looking to hire students."

CONTINUED ON PAGE 16

See what goes into capturing a stellar selfie.

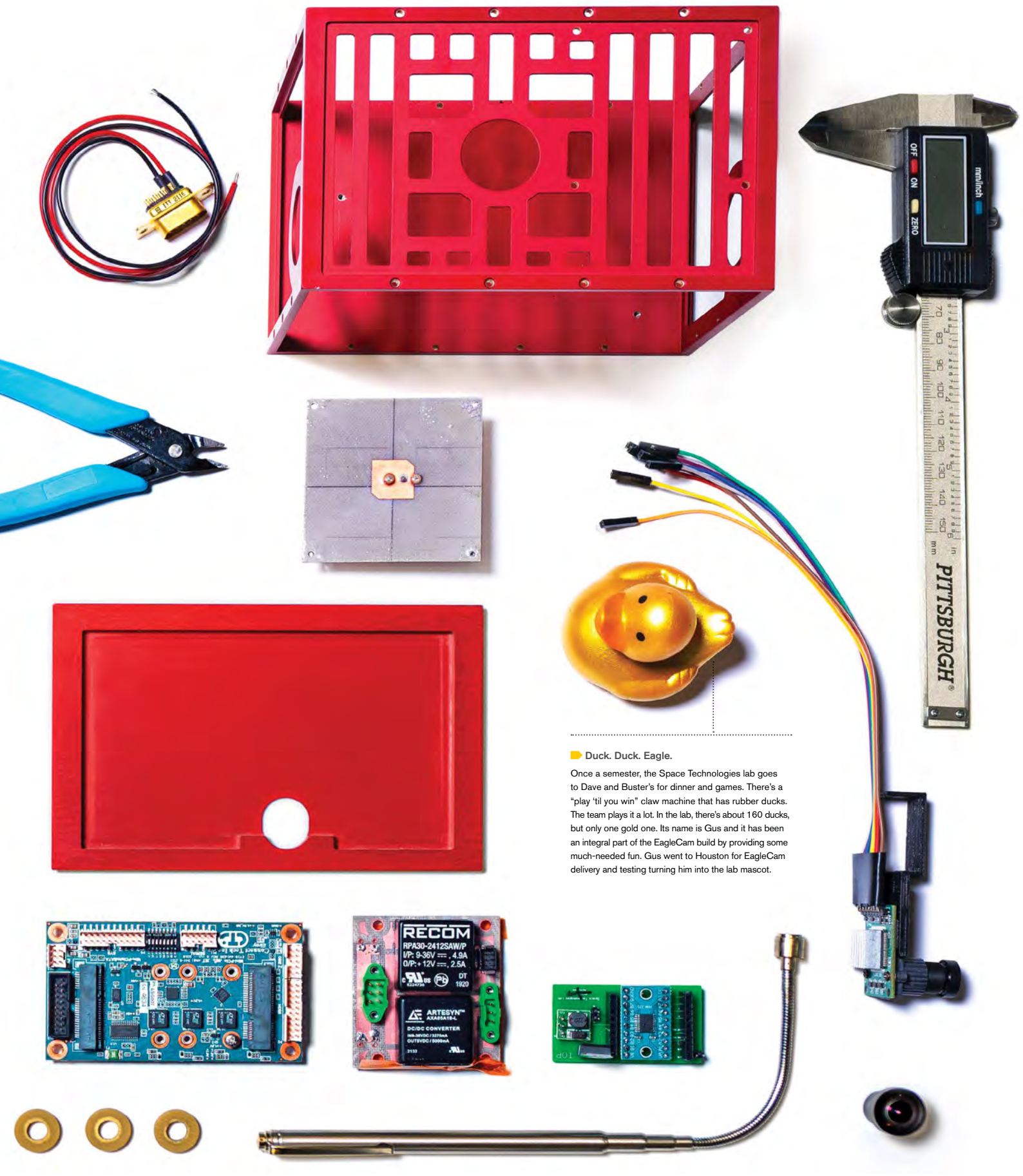


The first university student project ever to land on the moon will also include an electrodynamic dust shield developed by Charles Buhler ('95), an Embry-Riddle alumnus and NASA senior research scientist. The shield uses an electric field to remove fine lunar regolith from two of the camera lenses.

Dr. Eduardo Rojas, assistant professor of Electrical and Computer Engineering, led a student team that developed and delivered the WiFi antennas for the first-ever lunar surface transmission and assistant professor Dr. M. Ilhan Akbas also contributed to the project.

In addition to the solar selfies, EagleCam is equipped to explore dust plume imagery, dust accumulation analysis and lunar surface imagery.

The Nova-C landing will also mark a huge success for Intuitive Machines, the Houston-based private company that is among several NASA has enlisted as a Commercial Lunar Payload Service provider to explore and test technologies ahead of the proposed launch of a crewed lunar mission in 2024.



Duck. Duck. Eagle.

Once a semester, the Space Technologies lab goes to Dave and Buster's for dinner and games. There's a "play 'til you win" claw machine that has rubber ducks. The team plays it a lot. In the lab, there's about 160 ducks, but only one gold one. Its name is Gus and it has been an integral part of the EagleCam build by providing some much-needed fun. Gus went to Houston for EagleCam delivery and testing turning him into the lab mascot.

Entrepreneurs pitch their ideas to judges during the TREP Expo.

LEADING THE ENTREPRENEURS OF THE FUTURE

Our yearly TREP Expo provides students, faculty, staff and alumni with a unique chance to unleash their creativity and highlight their one-of-a-kind venture concepts. Participants also benefit from expert guidance to improve their entrepreneurial skills.

Whether created by a team or individually, all concepts are screened on the same criteria — commercial viability, innovativeness and general interest.

The accepted teams are then split into groups to present their venture concept and receive an evaluation from our judges.

Along with the potential of earning one of the $1,000 checks awarded to winners, everyone receives advice on their venture concept from successful entrepreneurs and investors to boost their opportunities for success.

In our most recent TREP Expo, the winners of our new Space Technology Repurposed category included Taylor Stroup ('22), Ryan Patterson ('23) and Nicholas Sontra ('24), founders of MiCap Technology — a "self-healing" wire insulation company.

"If there is a nick or scratch on an electrical wire, our product would allow the wire to heal itself instead of failing." RYAN PATTERSON '23

The Katalyst for Success

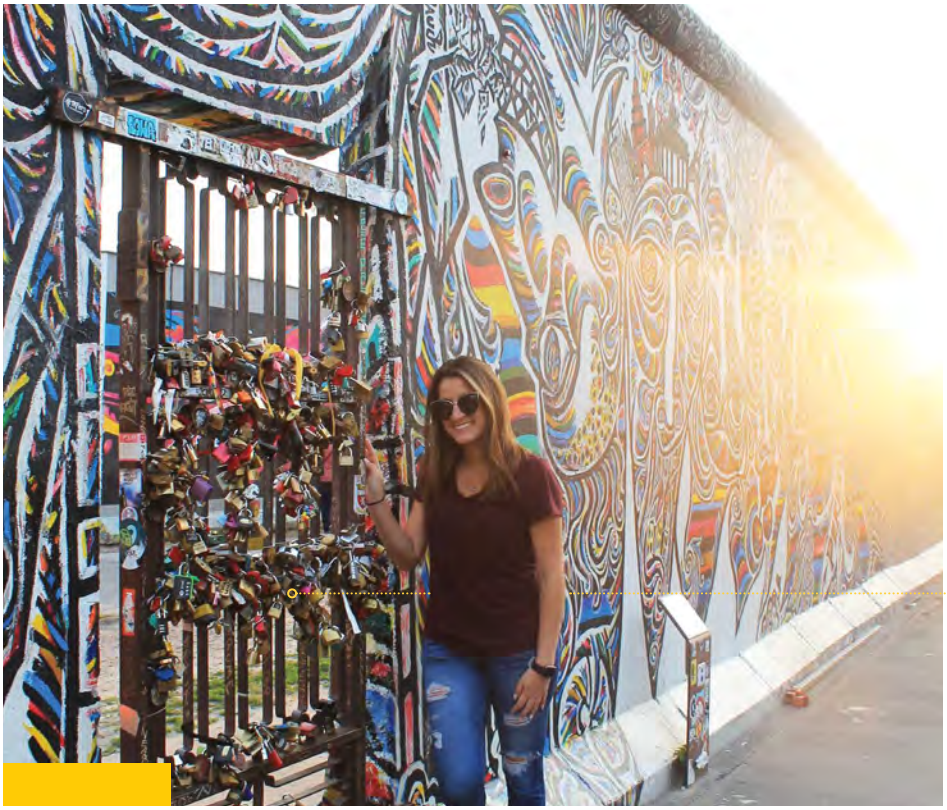
When Ghonhee Lee ('18) and Nick Liapis ('19) met through a research project as Aerospace Engineering majors at Embry-Riddle, they wouldn't have guessed they would eventually team up to launch their own company.

After graduation, both went into big aerospace; Lee working for Raytheon and Liapis for The Boeing Company. Experience in the industry opened their eyes to an opportunity — one with the potential to accelerate innovation and "shake up" how the satellite industry works.

Established in 2020 and headquartered in Flagstaff, Arizona, Katalyst Space Technologies focuses on the emerging area of on-orbit servicing, assembly and manufacturing (OSAM). Its mission is to build and deploy products today that serve as the "building blocks" for increasing the responsiveness, flexibility and sustainability of space operations tomorrow.

"Our vision is essentially the iconic sci-fi movie scene that presents a giant spacecraft much larger than what is currently able to fit inside of a rocket fairing," said Lee, founder and CEO.

Katalyst's modular approach to spacecraft design and mission architecture has big implications, from managing space traffic to mitigating space debris.



AN EXPERIENCE TO LAST A LIFETIME

Mariana Palik Larranaga grew up with the mantra that traveling is the best money a person can spend.

"You learn about different cultures, countries and societies, and it helps shape an open mind," she said. "It's good for the soul, and all the people you meet along the way teach you something you take with you for life."

With the lessons instilled in her from her parents and dreams of seeing Europe, she leapt at the chance to spend four weeks abroad while working toward her bachelor's degree in Aerospace Engineering.

Her journey began early with two weeks in Slovenia and Italy spent visiting with family before making the trip to Berlin and connecting with her peers from Embry-Riddle.

Palik Larranaga's program enabled her to grow her engineering expertise while taking in all the unique sights and experiences that Belgium, the Czech Republic, Denmark, Germany and Hungary had to offer. Her favorite had to be Budapest, Hungary.

"It was the very last trip we did as a group before the end of the program, and it is definitely the most beautiful place I have ever been," she said.

Now a design engineer for Belcan and a graduate student in the Mechanical Engineering program, she will always cherish her semester abroad.

> **"It was an amazing summer," the recent alumna said. "Definitely the most memorable of my undergrad."**

Love Locks

Placing padlocks, or "love locks," on bridges as a symbol of love is a phenomenon that's sweeping the globe. You can find these on bridges across Europe and even along the Berlin Wall in Germany.

Exploring Taiwan

Having chosen Embry-Riddle because of her interest in making a difference on a global level, Carolyn Chatham's decision to become an Eagle was solidified by the Chinese track available with her major in Global Security & Intelligence Studies (GSIS).

"A big reason why I participated in the Chinese track was to go on the study abroad trip," Chatham ('23) said. "Studying abroad has always been a goal for me."

Through the Project GO Chinese program, students like Chatham improve their Chinese language proficiency, gain cross-cultural communication skills and experience Taiwanese culture firsthand.

"My favorite part of the trip was going somewhere new every day," she said.

Throughout her stay, she got the chance to visit new tourist spots, night markets and landmarks around the area with her group of friends.

Chatham encourages other students interested in studying abroad to take advantage of the opportunities that the Project GO programs provide.

DAYTONA BEACH

FLORIDA CAMPUS

Our East Coast campus is only minutes from the beach and adjacent to an international airport and speedway.

CAMPUS PROFILE

- 7,000 Undergraduate Students
- 50 States / 97 Countries Represented
- 11% International Students

Student Clubs + Organizations

200+ student clubs ranging from Mars Society to Musicians Club; and from the Muscle Car Association to Microgravity Club; as well as club, intramural and recreational sports.

Athletics

Women's
- Basketball
- Cross Country
- Golf
- Lacrosse
- Rowing
- Soccer
- Softball
- Tennis
- Track & Field
- Volleyball

Men's
- Baseball
- Basketball
- Cross Country
- Golf
- Lacrosse
- Rowing
- Soccer
- Tennis
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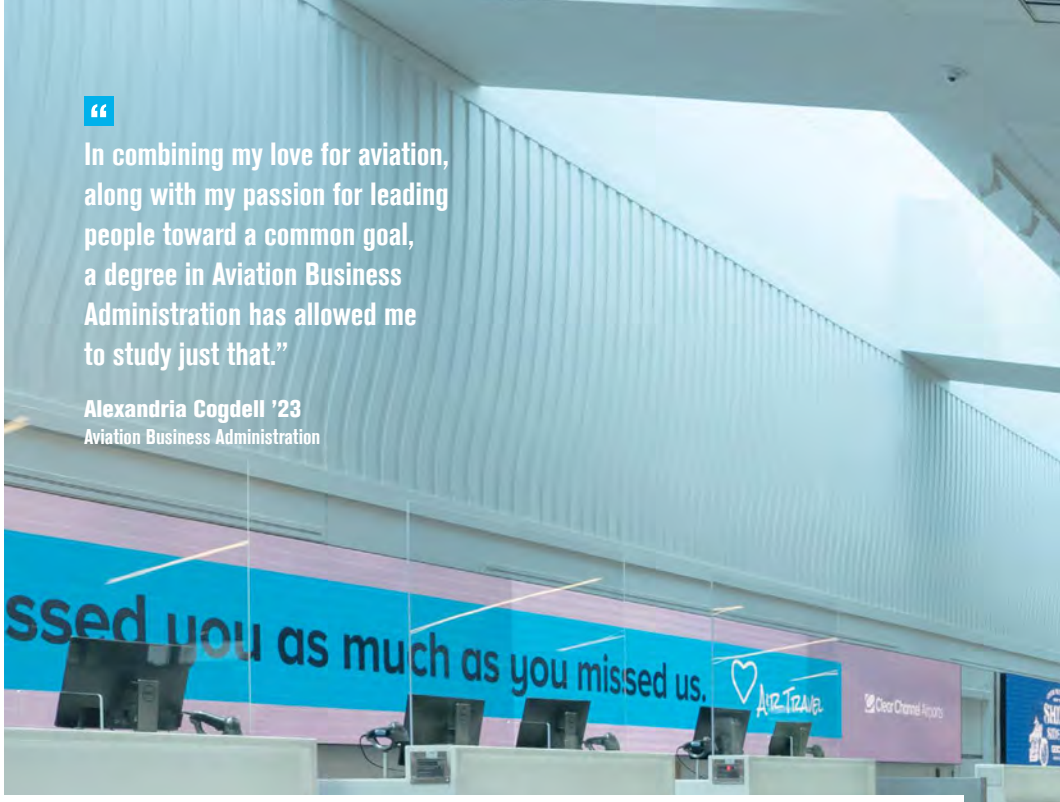


A NATURAL LEADER

Alexandria Cogdell's love for aviation began when she was a little girl and realized that nothing excited her more than observing planes at her local airport and traveling to new places.

As an Aviation Business Administration major, she has found Embry-Riddle to be the perfect fit for her passions and career goals.

In high school, Cogdell ('23) gained experience in leadership roles in several student-run organizations, including her Student Government Association.

"In combining my love for aviation, along with my passion for leading people toward a common goal, a degree in Aviation Business Administration has allowed me to study just that," she said.

In her first year at Embry-Riddle, she joined many organizations on campus, including the Airport Management Club.

"Coming into the industry with baseline knowledge, I wanted to start where my journey of aviation first began — flying through an airport," she said. "Because of the connections I made in the club, I was able to attain an internship at Lee County Port Authority."

Cogdell completed her internship last summer, where she learned the ins and outs of airport operations, emergency management, marketing and more.

"I was able to spend many weeks at Southwest Florida International Airport, where I joined the Operations Department alongside agents that focus on the daily protection of the airport on airside and landside," she said. "I also spent a day shadowing the station manager for Southwest Airlines, as well as the airport operations managers from both airports in the Port Authority."

Because of this unique opportunity, she feels more sure of herself and what direction she'd like to take for her career.

"Academically, as a first-generation college student, I want to push myself harder than ever to represent my family well," said Cogdell. "In the next few years, I can happily say I will obtain my master's degree once completing my undergraduate studies!"

She hopes to one day become an executive for an aviation company. We know she'll fly high to success, wherever her career takes her!

A Weekend of Nonstop Fun

Each year, students on our Daytona Beach Campus enjoy a lineup of exciting events and activities during our Homecoming Weekend. In October, our Eagles had a blast at our Homecoming Block Party, Food Truck Festival and Homecoming Dance, to name just a few of the many festivities.

We wrapped up the weekend with our Fly-In and Static Display, along with Homecoming Court and Crowning. The grand finale included a special concert featuring LAUV, with special guest MAX and fireworks that lit up the night!

“I enjoyed seeing friends who had graduated come back and experience the campus. The concert was amazing. The crowd was unreal. MAX truly matched the energy of all the attendees and made an unforgettable experience.”

Rajan Khanna ’22
Aerospace and Occupational Safety

Live From Daytona Beach…

It's WIKD 102.5! Sponsored by the Student Government Association and powered by a team of more than 50 student leaders, hosts and engineers, WIKD provides the Embry-Riddle and Daytona Beach community with 24/7 entertainment — all from the Student Union.

The student-run, free-format station made its iHeartRadio debut in 2013, making it one of a handful of college stations to broadcast on the popular streaming platform. In addition to playing popular hits in various genres like top 40, alternative rock, EDM, indie and more, the FM station has expanded to include a series of original podcasts and even a team of DJs who can bring live music to any event.

Tune in now!

LOOK OUT, R2-D2!

Embry-Riddle's new Starship Delivery Robots are more than meets the eye.

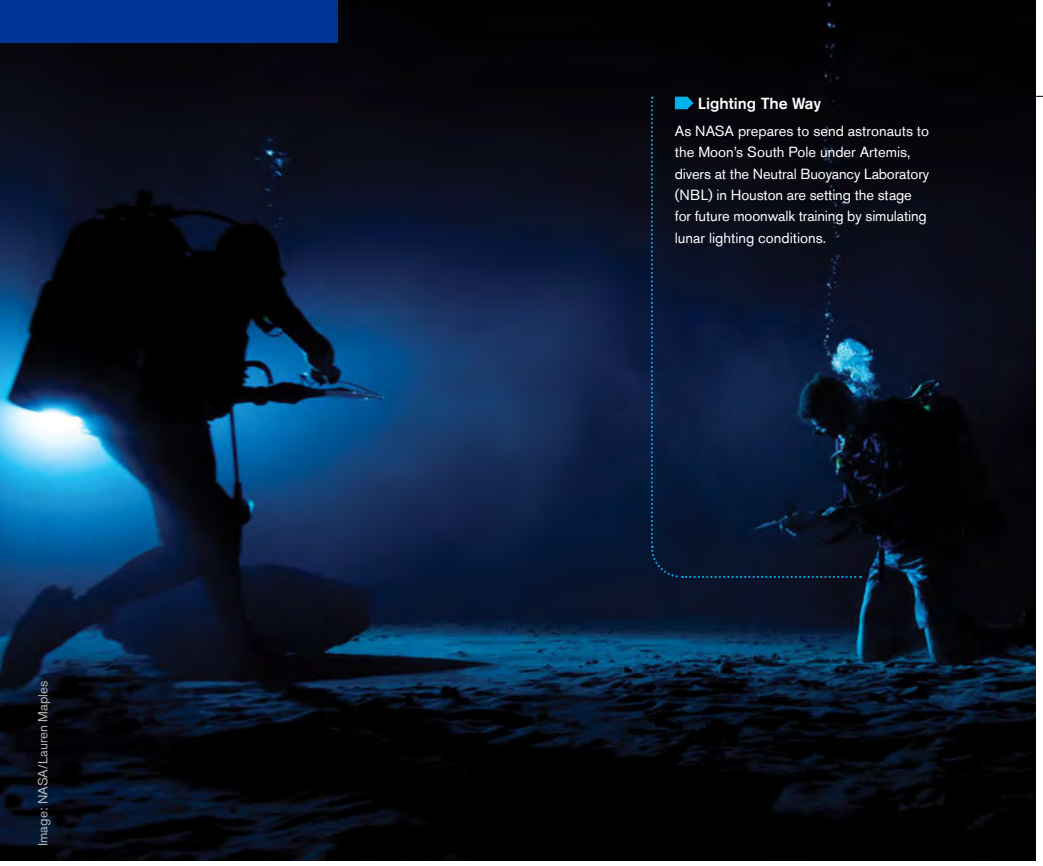
What do you do when you want dinner but don't feel like leaving the residence hall to walk to the student union to get it? What if you need a quick study break but don't want to waste valuable time searching for a snack? Or perhaps you don't want to tear yourself away from an intense match on the sand volleyball courts but are really craving a tall, nonfat, iced, skinny mochaccino.

Look no further than the Starship Delivery Robots!

Students can have their meal, snack or beverage delivered anywhere on campus via robot. Embry-Riddle is Florida's first college to offer this service where students can place food orders at participating campus venues via the Starship Food Delivery app and have it delivered anywhere on campus.

> **The Starship Delivery Robots are maintained by a team of engineering and robotics students who are hired to handle programming and perform maintenance. The robots' progress is remotely monitored, and the team can take control of the vehicles at any moment should circumstances warrant it.**

The Starship Delivery Robot has brought food delivery into the future, but there's more to these starship troopers than meets the eye.



Lighting The Way

As NASA prepares to send astronauts to the Moon's South Pole under Artemis, divers at the Neutral Buoyancy Laboratory (NBL) in Houston are setting the stage for future moonwalk training by simulating lunar lighting conditions.

Image: NASA/Lauren Maples

DIVING INTO A FUTURE OF POSSIBILITY

Aspiring rocket scientist Marielle Lenehan ('23) finds herself just as fascinated by what can be found beyond the stars as what lies beneath the surface of the ocean.

When it came to choosing a school where she could pursue both her passions, Embry-Riddle's proximity to the ocean and Space Coast made it the perfect fit.

"There's nothing more encouraging than to look out of your dorm window to see a rocket launch into the sky — a steady reminder of what you might be working on in the future!" she said.

In 2021, Lenehan was accepted to NASA Johnson Space Center's Pathways Internship Program, which provides students with opportunities to work at various branches in preparation for a career with NASA after graduation.

With several diving certifications under her belt and a keen interest in human space studies, it's no surprise she ended up at the Neutral Buoyancy Laboratory (NBL), an astronaut training facility that houses the agency's neutral buoyancy pool.

"The underwater environment serves as one of the best microgravity analogs out there, and divers face many of the same restrictions as an astronaut during extravehicular activities," she said.

Successful completion of rigorous medical, swimming and diving evaluations cleared Lenehan for what would be her most impactful experience yet — scuba diving in the NBL and exploring its full-scale model of the ISS.

She even played a crucial role in the setup of several underwater lunar lighting tests designed to replicate shadows found in the polar regions of the moon where the Artemis missions are set to land. When she wasn't in the water, Lenehan also assisted with the design and structural analysis of a new platform to increase the fidelity of water survival training for astronauts.

"The fact that I worked at the NBL during my first co-op rotation is really special, especially when you consider that applying to the branch is highly competitive," she said.

Outside of her studies, Lenehan keeps busy as a principal investigator for a research project in the Spacesuit Utilization of Innovative Technology (S.U.I.T.) Lab. She also serves as president of the university's marine conservation diving club.

The Aerospace Engineering program has given her the knowledge and hands-on experience to dive into the internship — and wherever the aerospace industry takes her next — with confidence.

"People at Embry-Riddle really do want you to succeed and are always there for you if you need them," Lenehan said. "That kind of support was integral and gave me the motivation to not only do well in my classes, but to take my shot and apply for experiences like the Pathways program."

NO. 04

Robots can travel at night and operate in various weather conditions.

NO. 05

Robots can cross streets and climb curbs.

FUN FACT The robot has a 'situational awareness bubble' around it — featuring 12 cameras, ultrasonic sensors, radars, neural networks and more to detect obstacles, whether that is a dog or a pedestrian/cyclist.

NO. 06

Robots can travel at a maximum speed of four miles per hour.

PRESCOTT

ARIZONA CAMPUS

Nestled in the beautiful Bradshaw Mountains between Phoenix and the Grand Canyon, our Western campus is renowned for its excellent seasonal weather and outdoor activities such as skiing, hiking, mountain biking, kayaking and rock climbing, to name just a few.

CAMPUS PROFILE

- 3,000 Undergraduate Students
- 50 States / 97 Countries Represented
- 11% International Students

Student Clubs + Organizations

190+ student clubs ranging from the Mountain Biking Club to Society of Women Engineers; and from the Blue Eagles Skydiving Team to the Brotherhood of Steel; as well as a variety of intramural and recreational sports.

Athletics

Women's
- Basketball
- Cross Country
- Golf
- Outdoor Track
- Soccer
- Softball
- Volleyball

Men's
- Baseball
- Basketball
- Cross Country
- Golf
- Outdoor Track
- Soccer
- Wrestling

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prescott.erau.edu

For Matthew Arnovick ('22), you could say aviation runs in the family.

Hearing about his great uncle's experience as a test pilot and flight instructor and stories from his grandmother from her time as a United Airlines stewardess in the 1950s fueled his own dreams of a career in the sky.

The California native discovered Embry-Riddle and was instantly sold. Wasting no time getting involved once he arrived in Prescott, he earned a coveted spot on the Golden Eagles Flight Team in his freshman year.

"The Embry-Riddle name is well known throughout the industry not only because it was a pioneering school, but because of the pilots and professionals it produces," Arnovick said.

Having held two officer positions and competed in a variety of flight competitions and ground events, Arnovick has developed valuable leadership and technical skills. He is especially inspired by his teammates, who bring diverse perspectives and a shared pursuit of greatness to the team.

> **"Perhaps the greatest experience I've had would be the time I got to spend with new friends I've made along the way," he said. "Those experiences shared with my teammates are what I will value most."**

PROPELLING DREAMS

Aeronautical Science Senior Finds Direct Path to Delta Air Lines at Embry-Riddle

Looking to the future, Arnovick was thrilled to learn about Delta Propel — a career program designed to provide Eagles with an accelerated path to a career with Delta Air Lines.

"Before I came to Embry-Riddle, I had always looked at Delta Air Lines as a great company and one I would love the opportunity to work for," he said.

Arnovick's hard work paid off when he received his acceptance to the highly selective program in November.

"The first thing I did was call my mom and tell her the exciting news," he recalled.

Along with attending the program's on-campus events, Arnovick traveled to Atlanta, Georgia, to network with fellow pilots and explore the company's world headquarters and flight museum during the Propel Convention in March.

Arnovick has already accepted a qualified job offer with Delta and looks forward to building his hours as a flight instructor for the university after graduation. As a bonus, he will continue to receive personal mentoring and guidance from a Delta pilot as he transitions to a regional airline and, ultimately, the Delta flight deck.

"My experience in the Delta Propel Program has been nothing short of amazing," he said. "I am incredibly thankful and excited."

Wrapping Up A Successful Season

In November, the athletic teams on our Prescott Campus got the chance to put all of their hard work to the test in the final tournaments of the season.

Our Women's Volleyball and Women's Soccer teams both took home the 2021 Cal Pac Tournament titles. Whether on the court, on the field or in the classroom, our female student-athletes continue to inspire us every day.

Plus, our Men's and Women's Cross Country teams each took home Cal Pac titles for their respective competitions. We couldn't be more proud of our Eagle athletes!

"I believe that it is because of the cohesion, dedication and support that we had a successful season. Moments like that make all the early mornings, late nights and countless hours of hard work worth it."

Lauren Foster '22
Business Administration
Women's Soccer

EAGLE UNDERCOVER

DUE TO THE NATURE OF HIS PROFESSION, THE STUDENT'S IDENTITY HAS BEEN REDACTED TO PROTECT ANONYMITY.

[redacted] ('21) credits his professors and a diverse curriculum for helping him land a position with a high-level U.S. government agency.

Global Security & Intelligence Studies major [redacted] ('21) has always been interested in the international field and homeland security. So, naturally, he was drawn to Embry-Riddle's College of Business, Security and Intelligence, the first school of its kind in the country.

[redacted] said the program helped him to fine-tune his career trajectory by allowing him the opportunity to explore the many facets of global security and intelligence with its diverse course offerings.

"From counterterrorism, legal, analytical, counterintelligence and many other aspects, it allowed for me to test each category," he said. As a result, "I am employed relating to my degree, and I'm doing something I love."

[redacted] credits the support and guidance from his professors for opening the doors of professional opportunity. While [redacted] can't divulge what federal agency he is employed by, he has seen the impact an Embry-Riddle education has had on the federal workforce with the number of alumni he has met, especially graduates of the Global Security & Intelligence program.

> **"I enjoyed every bit of my experience at Embry-Riddle," [redacted] states. "It allowed for me to grow and served as the pinnacle of my transformation from high school to becoming an adult."**

I Spy a Study Spot

When you need a place to hit the books, the Prescott Campus has you covered. From wide open spaces to carefully tucked away nooks, students can always find a spot to study in a group or fly solo.

GREEN SPACE & AMPHITHEATER

HAZY LIBRARY CAFE

THUMB BUTTE COMPLEX ATRIUM

WORLDWIDE

ONLINE CAMPUS

Earn your degree on your terms, your schedule and from anywhere in the world through America's top online bachelor's programs.

CAMPUS PROFILE

- 17,000 Undergraduate Students
- 50 States / 97 Countries Represented
- 10 Start Terms Per Year for Online Programs

Online Classes

- Students complete assignments, join discussions, study and ask questions on their own schedule.
- Courses are divided into nine-week-long modules.
- Classwork takes eight to 12 hours per week.
- Students manage their time and resources while earning their degree.
- Faculty members use technology and gamification to enhance your learning experience.
- Completing your degree online can save you money on tuition, fees, transportation and housing costs.

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> “The most rewarding thing is actually watching the launch that I know I had hands on; and then watching the rocket come back down and land.”
>
> **Marcos Dominguez ’23**
> Engineering

A PASSION FOR FOLLOWING MY DREAMS

Since high school, Marcos Dominguez (’23) wanted to be an engineer. His interest in cars, airplanes and “anything you could drive or pilot” led him to pursue his dreams by studying engineering online at Embry-Riddle.

“I wanted to improve mechanical and aeronautical parts for vehicles.”

When it came to selecting a school to pursue his degree, Marcos chose Embry-Riddle because of its influence in the aerospace industry, and he appreciates the expertise his professors bring to the table. He particularly enjoyed his technical writing class, where his group project involved creating a presentation for NASA “to produce and design solar arrays or power-producing solar panels for the South Pole of the moon for the Artemis program.”

This California native had previously moved to Tennessee to work on planes and Chinook helicopters, but when the opportunity arose to work at SpaceX, he headed back west, where he is currently a lead propulsion technician who “prepares, tests and assembles major components for the Merlin engine,” which is what powers the rockets that launch the Falcon vehicles into space.

His work entails assembly and measurement down to the ten-thousandths, as well as balancing components. It’s “just nuts and bolts, but these nuts and bolts are part of a rocket engine.”

As launches have increased over the last year, so has the demand to produce parts, which can be challenging. However, the rewards are immeasurable.

“The most rewarding thing is actually watching the launch that I know I had hands on and then watching the rocket come back down and land.”

Dominguez has a drive to succeed.

“When I have a vision that I want to accomplish something, nothing stands in my way.”

He also stressed the importance of a support system.

“Make sure you surround yourself with supportive people, people who have goals to actually improve their lives.”

His advice to his fellow and future online learners is to “always make time for what you want to do. Once you start thinking you don’t have time, you start to shut down; but if you always make time, then you can do whatever you want.”

He also wants to encourage those who may feel it’s too late to pursue their degree.

“If you’re worried about how old you’ll be when you get that degree, that age is going to come regardless. So, you’re either going to be older with a degree or without a degree.”

Wise advice from a man whose dream is to hopefully continue his journey with SpaceX as an engineer either in production or design once he graduates. With a Bachelor of Science in Engineering from Embry-Riddle, along with his drive to succeed, there’s no doubt he is well on his way to achieving that dream.

Image Courtesy of Delta Air Lines, Inc.

Eagle Grads to Give Family Business a Boost

At Embry-Riddle Aeronautical University, the family that learns together earns together.

Kevinia Pramono-Rizqi and her son Nyson celebrated earning their degrees during the Worldwide Campus commencement in Daytona Beach, Florida.

Pramono-Rizqi graduated with her Master of Business Administration in Aviation while Nyson, 18, earned his associate degree in Aeronautics. Both achievements will help the family business, AeroProc, which uses aircraft and helicopters to transport fuel and heavy equipment.

"Embry-Riddle is the best aviation university in the world," Kevinia said. "My dream is to run our company together as a family."

SECURING MY DREAM JOB

Growing up, Michael Takeda ('17) was interested in law enforcement and intelligence and was immediately intrigued when he discovered that Embry-Riddle offered a B.S. in Homeland Security. He liked how the program was structured around giving students real-world experience through projects and internships. In fact, one of his internships led to his current position as a security specialist for the Delta Air Lines Operations and Customer Center (OCC), "the nerve center for all of Delta's worldwide operations."

Takeda serves as the primary contact for all of Delta worldwide, where he handles issues such as abusive passengers, contraband seizures, workplace violence incidences and suspected human trafficking. Additionally, he serves as a law enforcement liaison and takes care of security compliance, threat analytics and risk management.

"Through these primary functions, I work with different operational groups, such as pilots, flight attendants and customer service, to evaluate security-related concerns and collectively determine the best course of action for given scenarios."

Takeda appreciates the expertise of Embry-Riddle's Security Studies and International Affairs department faculty.

"Not only do the professors have real-world experience with agencies, such as the FBI and FEMA, they are also engaging to the students."

The best part of Takeda's job is that he gets to use the skills he learned at Embry-Riddle every day.

> **"I am able to apply the threat/risk analysis tools and emergency management principles I learned through the Homeland Security program to the real world on a daily basis."**

THE FLEXIBILITY TO SERVE

Inspired by her grandfather's service in the U.S. Air Force, Adrienne Reid ('24) always knew she wanted to contribute to air safety.

Her research led her to the Civil Air Patrol (CAP) — a USAF partner and public service organization that provides emergency services, executes disaster relief missions and promotes aerospace education. The New Jersey native began training to become a safety officer with her local squadron in 2020.

Reid's experience teaching cadets about risk management through the lens of aviation and aerospace opened her eyes to a potential career — and a degree would be her first step. She discovered Embry-Riddle after taking one of the university's free courses.

"I loved the platform and the opportunities the school offered," she said. "The rest was history."

Without developments in safety and mitigating risk, air travel would not be possible. What excited Reid most about a degree in Safety Management was the emphasis on technology's role in uncovering what the human eye cannot to solve challenges faced by the industry.

Thanks to the flexibility of the Worldwide Campus, Reid is able to stay involved with CAP as she completes her degree. She hopes to become a first lieutenant and continue to teach future cadets.

"CAP will always be near and dear to my heart," she said. "It gave me a sense of commitment, pride and, most importantly, integrity."

Reid ultimately sees herself in a career where she can help advance safety training within the space sector.

"I'm enjoying the incredible people I have met so far and the lifetime friends I've made even though I've only attended online," she said.

Image Courtesy of Civil Air Patrol

Navigating the Eagle Journey

With the help of the College of Arts & Sciences, Worldwide students can chart a more direct course to success through the Center of Mentorship Programs and Student Success (COMPASS).

COMPASS pairs students with mentors to enhance their personal growth and academic ability through improving time management, study habits, goal setting and other challenges that may arise.

The program currently includes Cohort Mentorship, Individual Mentorship and Research Mentorship, with plans to expand into Peer-to-Peer Mentorship soon.

"My mentor was great and allowed me to bounce all sorts of educational and career ideas off him. Getting feedback was helpful in forming solid goals for myself, both personal and career-wise."

Justin Zampa '21, '22
Aeronautics and Technical Management

EMBRY-RIDDLE
Aeronautical University

Florida Campus
Worldwide / Online Campus
1 Aerospace Boulevard | Daytona Beach, FL 32114

Arizona Campus
3700 Willow Creek Road | Prescott, AZ 86301

NEXT STEPS

HOW TO APPLY

Submit the following:

- Application: **erau.edu/apply**
- Official high school and/or college transcript or GED scores
- ACT and/or SAT scores (recommended)
- $50 nonrefundable application fee

Please note: Additional documents may be required of specific audiences.

- We evaluate applications on a continuous basis. Once all documents have been received, we will notify you of your admission status.

Based on the quality of our programs and the exciting and growing industries we serve, Embry-Riddle degrees are in high demand. Some of our programs may have limited capacity, and we encourage you to check the website or contact one of our admissions counselors for updates.

Apply Today!

SCHOLARSHIPS

Every student applying for admission is automatically considered for scholarships.

Scholarships:

- Are based on a student's grade point average and test scores, if submitted.
- Do not have to be repaid.
- Are sometimes need-based and require a FAFSA be submitted.

FINANCIAL AID

94% of Embry-Riddle freshmen receive some form of financial aid through scholarships, grants and loans.

To apply for need-based financial aid:

- Fill out the Free Application for Federal Student Aid (FAFSA) at fafsa.gov. It is available October 1 of the year before you intend to start college.
- Include Embry-Riddle's federal school code on the FAFSA: 001479.

The FAFSA is the first step in receiving additional aid. Notification of your complete financial aid package will arrive after you submit your FAFSA form. Federal and state financial aid programs are available to U.S. citizens or permanent residents who qualify.

COME VISIT

A visit to our residential campuses in Daytona Beach, Florida, and Prescott, Arizona, lasts about three hours and includes:

- Walking tour of campus.
- Meeting with admissions staff and getting answers to your admissions questions.

Register online, where you can customize your visit experience and view a schedule of available tour times. You may also request to sit in on a class or to meet with a professor, a financial aid advisor or an ROTC representative.

CONTACT US

Schedule your visit and learn more about Embry-Riddle.

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