THE 16 BEST DRONE UNIVERSITIES – STUDY UNMANNED AERIAL SYSTEMS

in News

If you're heading off to college in the future and you want to study unmanned aerial systems we've put together a great post for you. I sent out tons of emails to all the universities I could find that seemed to be drone friendly. I investigated who was involved with the drone program at each school and I got their point of view on what their school has to offer potential students looking to study UAS or unmanned aerial vehicles.

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If you like this post **please share it on Facebook** with the buttons at the left or the bottom of the page. If you have any comments please leave them at the bottom, or send me an email via contact form. If your university didn't make it on the list please contact me and if you belong here then I'll interview you and add you to the page!

Universities With Accredited UAS Degrees

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These universities offer a full course of accredited academic study that will lead you to a degree in Unmanned Aerial Systems, operation, management, maintenance and even design.

Kansas State Polytechnic University

Check out their program here.

I spoke with **Dr. Michael Most**, UAS Program Lead for Kansas State University for this article and he was very helpful in giving me details about the Kansas State UAS program.

Kansas State was the first entity in the USA to receive FAA approval to conduct academic and commercial flight training. They offer an Unmanned Aerial Systems and Field Operations option of study which will prepare students for careers in the field of Unmanned Aircraft Systems, otherwise known as RPA – Remotely Piloted Aircraft. Students will be prepared to safely deploy UAVs to help with emerging challenges and opportunities.

"Hands On" flying is emphasized across the curriculum. The K-State UAS program emphasizes the skills necessary to fly unmanned vehicles while also conducting field operations and repairs. Kansas State also has a unique approval granted by the FAA to conduct commercial research operations, which students in the program are also able to participate in. The campus works with a 3 million cubic foot netted enclosure that allows for research and training flights in Class D Airspace, through all four seasons!

Kansas State is one of the top universities in the United States for UAS studies because they were one of the first 2 universities along with the University of North Dakota to offer this program. You can't go wrong with K-States "Hands On" learning approach, and they offer a large diverse fleet of aircraft with which you will be learning!

K state works closely with private contractors, government and non-government affiliated agencies to ensure the safe integration of UAS into local, national and international airspace. They are at the leading edge of UAS studies.

Other programs offered at K-State in the UAS field are a Bachelor of Science in UAS Engineering Technology and a graduate certificate in UAS Cybersecurity.

North Dakota University

Read more about their program here.

I was not able to reach anyone for response to my interview questions for this article from the University of North Dakota.

The University of North Dakota was one of the first two Universities in the United States to offer an accredited degree in Unmanned Systems. This alone gives it a distinct edge in the market for Universities who study these programs. They have years of experience in a field that is only a few years old.

The curriculum offered to the students who choose to study Unmanned Aircraft Systems Operations at ND are targeting the civil unmanned aircraft systems industry. The program will ensure that students are ready to work as operators or developmental team members of unmanned aircraft systems. Students will be required to utilize skills in complex science, technology, engineering and mathematics. They will also need to posses strong critical thinking and problem solving skills to finish this course of study.

UND also has an extremely active set of campus groups that are involved in unmanned aerial systems studies and competitions. Check out the UAS Research website here. Their Center for Unmanned Aircraft Systems Research department will provide a link for private industry and UAS researchers. This will help encourage commercialization of the research done.

You can read about the University of North Dakota students who won a major internation competition in Unmanned Aerial Systems design here.

All around, North Dakota is a great place to be if you want to study Unmanned Aerial systems because there is so much going on in the Fargo area in this field of study. The US government and military complex has recognized that North Dakota is taking a lead in this field and they are putting in a lot of effort up in North Dakota to make connections in research and application of drone technology at the University. This gives students there a unique opportunity to study Unmanned Aerial Systems and make networking connections both in the military, as well as civilian fields.

Check out their program here.

I spoke with Jamey D. Jacob, PhD, John Hendrix Chair and Professor of Aerospace Engineering an d Director, Unmanned Systems Research Institute at Oklahoma State University.

OSU's UAS Option started in 2011 and focuses on engineering at the advanced (graduate) level. All students will complete training in hands on UAS design and engineering, including analysis, programming, and flight testing of UAVs. Both in-house and COTS platforms and systems are used as part of the program.

Projects include advanced platform design and analysis, VTOL systems, quiet aircraft, advanced autopilots and autonomous systems, GPS denied navigation, sense and avoid systems, and development of UAS for civilian All students are required to research a topic in UAS, which includes design, analysis and flight-testing of an unmanned aircraft. Research opportunities include UAS Design, Aerodynamics, Flight Path Management and Airspace Integration, Sense and Avoid, Controls, Structures, Aeroacoustics, Propulsion, Communications and Operations, and Sensors.

The UAS Pilot program that started in 2015 and trains UAS Commercial pilots through the School of Aviation Education.

The OSU Unmanned Systems Research Institute encompasses UAS related laboratories and research groups across the campus, and includes the Schools of Mechanical and Aerospace Engineering, Electrical Engineering, Computer Science, Aviation Education, Geography, and Biosystems and Agricultural Engineering, among others.

Unique laboratory facilities include indoor and outdoor flight test facilities, autonomous systems laboratories, RF and acoustic anechoic and reverberation chambers, propulsion test rigs, full scale aircraft manufacturing and layup facilities, and wide UAS fleet. OSU students and faculty have constructed and flown over 200 custom aircraft over the last decade and a half, including some that have set world records (see aerodesign.okstate.edu).

The current UAS fleet includes over 100 aircraft from micro-UAS to group 3 vehicles.

There are several unique competitions and programs. **On the research side,**

- OSU is leading a $6M effort supported by the National Science Foundation to develop and integrate unmanned aircraft for use in meteorology and atmospheric physics, www.cloud-map.org,
- OSU is developing plug-and-deploy autopilot systems for fixed and rotary wing applications
- OSU is developing systems for oil & gas and utility inspection for the National Energy Solutions Institute.
- OSU is developing unique platforms and systems for SOCOM.

In education and outreach,

- OSU is home to SpeedFest, which is designed to be the most challenging student remote control aircraft design, build, fly competition in the world, speedfest.okstate.edu
- OSU hosts the Unmanned Airspace Innovation Challenge, which is a student competition for undergraduate and graduate teams to push the boundaries of unmanned aircraft system operations and improve safety within the national airspace through exploitation.

Indiana State University

You can read more about their program here.

I was not able to reach anyone for response to my interview questions for this article from Indiana State University.

Indiana State is an accredited university and they offer a Major in Unmanned Systems (UMS) as well as a minor in Unmanned Systems to go along with their Aviation Management and Aviation Technology Studies programs. They have a great community of like minded unmanned aerial enthusiasts and are a great option to look into if you're looking for an accredited degree in studying Unmanned Aerial Systems.

Students at Indiana State University who are studying the Unmanned Systems major will learn about the regulations impacting unmanned systems operations, and the differences in unmanned systems.

They will also be learning about safety assessment, functional requirements, UMS integration and sensitivity analysis are investigated as well.

One exciting development at Indiana State in the Unmanned Systems field is the new Center for Unmanned Systems and Human Capital Development. They are in the process of developing human capital in the fields of disaster response, crisis management, crop yield improvement, construction, and generally repetitive, dirty, or dangerous missions. They feel that the most important component to any unmanned system is the human element and that is why they are creating this department.

You won't regret it if you decide to study UAS at Indiana State, they have a lot to offer.

Embry-Riddle Aeronautical University

Read more about their program here.

I was not able to reach anyone for response to my interview questions for this article from Embry Riddle.

Embry-Riddle is a well known aeronautics university that definitely deserves a spot on our list for the top universities for unmanned aerial systems. They were the first university in the nation to offer post grad education in drone technology.

The Bachelor in Science in Unmanned Aircraft Systems Science (here) is a great choice for those looking to complete a major in this topic they can become a pilot as well as learn repairs and engineering.

Another great topic of study is the Master of Science in Unmanned and Autonomous Systems Engineering (here). This degree allows students to study unmanned and autonomous aircraft, surface vessels, and underwater drones.

They also have a graduate degree in Unmanned Systems (here) which focuses on non-engineering topics such as emergency industry issues, policy design, ethics and systems management.

Finally they also offer an undergraduate degree in Unmanned Systems Applications (here). This degree will prepare students for administration, operations and development work in the unmanned systems field.

Embry Riddle is one of the best schools in the nation for studying unmanned systems and you can see why. They offer undergraduate and graduate degrees so you can study exactly what you want (drones) your entire school career.

Green River College

Check out their program here.

I spoke with **George Comollo**, Aviation Instructor & Technology Division Chair at Green River Community College.

"GRC is offering an accredited degree in Unmanned Aerial Systems oriented more toward UAS operators. Our degree is financial aid approved therefore making it accessible to all. The degree is two years long with the possibility with transfer into our BAS in Aeronautical Science. It is expected that the degree will assist several industries in training their employees in the areas of flying, repair, data collecting, and programming."

Mr Comollo went on to say:

"We are working with Maker-Space groups as well as several High School Skill Centers and other High Schools providing them the opportunity for young students to embark in an exciting new career. We have about the only accredited degree in the State of Washington.

At this time the program is very new and we are not participating in any competition but look forward in doing so once the program takeoff full speed."

Green River Community College is a great choice for those of you looking for very hands on study of how to operate unmanned aerial vehicles, especially if you reside or wish to study in the Pacific Northwest.

You can read more about Troy University's Program here.

I spoke with **Al Allenback** at Troy University, he is the Course Director for Unmanned Aerial Systems. Their UAS courses are all online at the moment, they have students from as far away as Afghanistan.

Mr Allenback talks a little bit about the UAS Degree at Troy University:
"Troy University offers a minor and an Associates Degree in Unmanned Aerial Systems (UAS) online. We cover UAS Overview, Principles of UAS Design, Principles of UAS Sensors & Sensing Systems, Human Factors in UAS Operations & Accidents, Legal & Ethical Considerations for UAS Operations, Real World Operations and UAS Piloting Familiarization. Our goal is to create future "CDOs" or Chief Drone Officers for business."

Unmanned Aerial Systems Minor

Troy University is a great option for those of you looking for an online course that you can study from home in the evenings or weekends and get into Unmanned Aerial Systems while still holding onto your day job!

Central Oregon

Check out their program here.

I spoke with Karl Baldessari, Program Director, Central Oregon Community College Aviation school.

He told us a lot of details about the program at Central Oregon:
" We offer a full two-year program (100 credits) including education & training on small UAV, and large platform simulation. Additionally our degree prepares the student with analytical tools, including classes on Spatial Data Collection, Spatial Data Analysis, Remote Sensing… Finally, our degree will prepare the student with advance training in practical piloting since some employers are requiring pilot licenses."

He went on to say:

"Central Oregon offers simulation labs for industry recognized platforms, several models of quad copters for training, and application. Flight training to prepare the student for upper level jobs. Capstone class with an industry partner, (student spends a week with a UAV company, learning processes, procedures, maintenance pertinent to that company's platform. The GIS classes also include considerable lab time learning software products used for mapping."

The Unmanned Aerial degree itself is quite an exciting new development, since it is relatively new. We're also seeing new companies pop up, so employment potential for graduates is increasing. One grad is now working with a company that conducts inspection of off-shore oil rigs, wind turbines, and mining operations.

Central Oregon is one of the few schools to offer an actual accredited program in Unmanned Aerial Vehicles and so would be a great choice if that's what you're looking for!

Non Accredited – Technical Hands On Drone Schools

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Unmanned Vehicle University

Check out their programs here.

I spoke with **Josh Roetzer**, Business Development Specialist at Unmanned Vehicle University about their unmanned aerial systems studies programs.

Josh started out by talking a bit about the specific unmanned aerial systems programs they offer.

"We have multiple program offerings that we would consider complete unmanned aerial system programs. The difference lies in the career goals of the student. We have a 3 phase UAV pilot training program that is designed for individuals who have the end goal(majority of the time) of starting their own service providing business using small UAVs, across the myriad of commercial applications that are viable. We also have an online certificate program geared towards project management, including a course on designing and building your own small UAV. We were also the first institution in the US to be licensed to grant graduate degree in unmanned systems engineering, catering to individuals who more interested in technical courses."

Unmanned Vehicle University also maintains a database of previous graduates who have successfully completed the programs. This helps all new students by giving them access to a networking pool to work with to create new opportunities. The most recent exciting opportunity at the school is the UAV303 Design and Construction course. This is a 12 week course that teaches the principles and theories behind desigining and building sUAV. Students also receive two lab kits with which they are able to follow along with the instructor and build their own sUAV from scratch. They leave the course with the theoretical knowledge as well as a fully operational sUAV that they have built. The instructor for this course is Mr. Eric Jameson. He is a retired USAF intelligence officer and currently is the product manager in the drone category for stampede global. Stampede global is the largest wholesale distributor of Drone Video Systems in the US.

Another exciting update Josh tells us about is

"The first tier of students reaching their dissertation phase in the Doctorate in Unmanned Systems program. They will be conducting research in disciplines like autonomous systems, propulsion systems on unmanned systems, sense and avoid systems, and many more. The best aspect of our dissertation process is that the students are able to work directly with their professors in conducting real world research. This is made possible due to the fact that every single one of our instructors not only teach courses, but are fully operational in some aspect of the unmanned systems industry. This current, real world experience is crucial for our students. "

Universities Friendly To Drone Research & Student Groups

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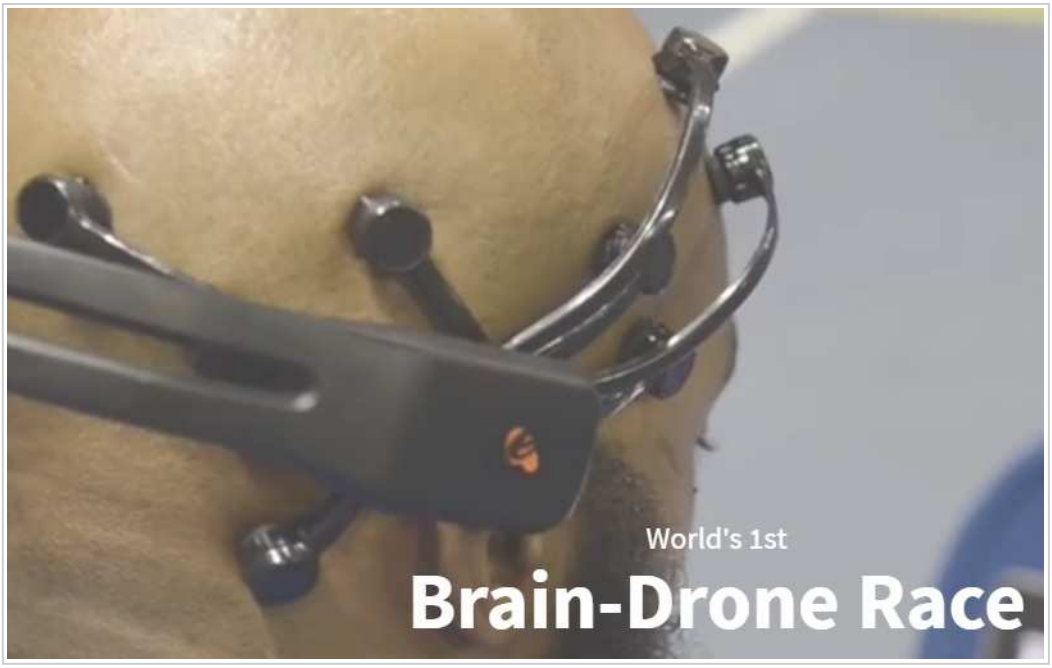
These universities may not offer a full accredited degree exactly in UAS but you can study engineering, robotics, mathematics, or any of the other degrees that are related to the field of unmanned aerial studies and focus your extra curricular activities and research on unmanned aerial vehicles while you're there. These schools foster a great environment for unmanned aerial studies at their campuses.

University of Florida

I spoke with **Dr. Juan Gilbert** at the University of Florida and he was very helpful in answering my questions about their participation in unmanned aerial systems research and programs of study.

The University of Florida doesn't offer an exact Unmanned Aerial Systems studies program, however they do have extensive career tracks in engineering and robotics.

However, I'm including U. of Florida in this listing because they are doing some exciting things with drones in the near future. They are hosting the world's first "Brain Drone Race". This is a race in which the drones are controlled by electrical signals emitted from the brain. I was blown away when I read about this and I had to include Florida in our list of Universities.



University of California at Berkeley

Check out their school here.

I spoke with **Charlene Shong** at the U of C Berkeley, of the Unmanned Aerial Vehicles Association at Berkeley (UAVs @ Berkeley) group. She was helpful and answered all of my questions about Berkeley's UAV programs.

At this time Berkeley does not offer a complete UAS studies major for students to focus on, but they are in the process of developing an accredited program. They will soon be hosting a 1-2 unit semester-long course instructing students on the safe piloting and building of UAVs.

They do have a student organization called the UAV Association, which is dedicated to providing a central resource hub for all things related to unmanned aerial vehicles within UC Berkeley, including multirotor, fixed wing and other miscellaneous UAVs. Activities within this group encompass a range of photography, videography projects, academic research and racing competitions. It definitely looks like the campus is friendly toward UAVs and inviting to those looking to study unmanned aerial systems.

There are a number of labs and student organizations that are interested in research involving unmanned aerial systems, a few of those include.

- Hybrid Systems Laboratory (http://hybrid.eecs.berkeley.edu/)
- CalUnmanned Research Lab (http://unmanned.berkeley.edu/)
  - Center for Collaborative Control of Unmanned Vehicles (http://c3uv.berkeley.edu/) *(Discontinued, Moved to CalUnmanned)*

- Vehicle Dynamics & Control Lab (http://vehicle.me.berkeley.edu/)
- Pieter Abbeel's Robot Learning Lab (http://rll.berkeley.edu/outreach/)
- BEAR: Berkeley Aerobot Team (http://robotics.eecs.berkeley.edu/bear/testbeds.html)
- Airport Design Studio (http://airportdesign.berkeley.edu/)
- American Institute of Aeronautics and Astronautics at Cal (http://aiaa.berkeley.edu/)
- Institute of Transportation Studies (http://its.berkeley.edu/)

Student Organizations/Clubs on Campus with UAV/UAS Focus

- Learn to Fly: Pilot Ground School (http://aiaa.berkeley.edu/skycal/)
- Design, Build, Fly (http://aiaa.berkeley.edu/design-build-fly.html)
- Space Exploration Society at Berkeley (http://sesb.berkeley.edu/)
- Aero-Design SAE @ Berkeley (http://asaeberkeley.weebly.com/)

Charlene went on to tell me

"Recently a FAA 333 Exemption was approved for UC blanket use, with Brandon Stark, Lab Manager for the Mechatronics, Embedded Systems and Automation Lab in the School of Engineering at UC Merced, leading the formation of the UC Center of Excellence on Unmanned Aerial System Safety. This development enabled UAVs @ Berkeley to successfully meet up with campus representatives from the university, Risk Services, and our UC Police Department to discuss safe UAV flight on campus, which was previously strictly disallowed. As a result of the meeting, the University approved our request for an official UAVs @ Berkeley Flight Program!"

She went on to say

"Rules and regulation aside, UC Berkeley is developing its own FPV (First Person View) Racing Team, in which UAV pilots fly small, *fast* quadcopters with cameras that transmit a live feed of the UAVs perspective to a pilot wearing virtuality goggles. The first World Drone Prix 2016 concluded recently, and UAVs @ Berkeley is looking towards creating a league of our own, for intercollegiate racing. We have been collaborating with Kelvin Lam, a Bay Area local who helps host the Droneworlds and Drone Nationals FPV Racing Leagues, and his assistance and vision for an intercollegiate event has encouraged us to work hard to make it a reality."

Which gives you an idea of how friendly the campus is towards student groups who are interested in unmanned aerial studies. So while UC Berkeley doesn't yet have an official UAS studies program, we're confident that if you choose UC Berkeley you'll be sufficiently happy studying one of their engineering or robotics programs and working in the labs and student groups on UAS during your years there.

Florida State University

Check out their program here.

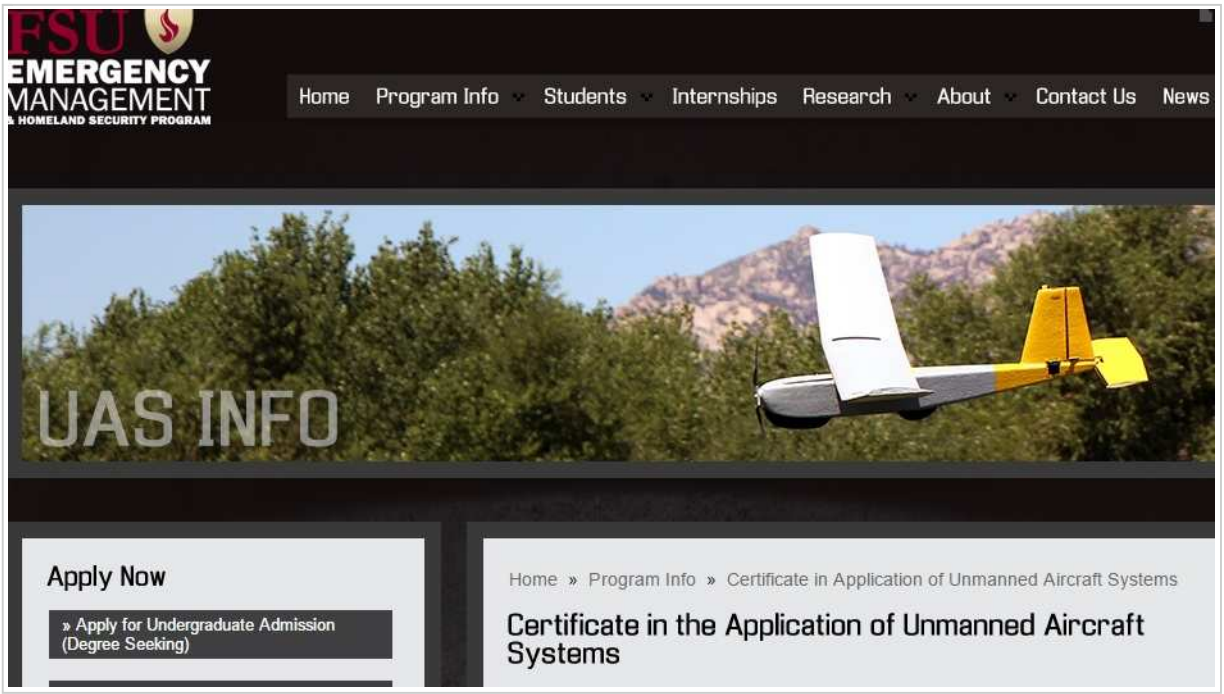
I spoke with David Merrick, Deputy Director, Center for Disaster Risk Policy at Florida State University.

David tells us about Florida States UAS programs.

We offer a certificate program in the Application of Unmanned Aircraft Systems that was approved by our accrediting body – but no major or minor. The certificate is available at the undergrad and graduate levels, and can be added into any major or program of study. The graduate certificate requires 15 credit hours total, with three required courses and two electives. The undergraduate certificate requires 12 credit hours with two required courses and two electives. Our program focus very strongly on the application of UAS in emergency and disaster management. Our faculty, staff, and student researchers are currently working on a variety of real-world UAS projects, including the integration of UAS into Florida's Urban Search and Rescue task forces.

Florida State has a new Small Unmanned Aircraft Systems club that give students more exposure to the field and the technology. In addition, we provide a lot of 'beyond the classroom' opportunities for our UAS focused students, including projects, conferences, and meetings with industry representatives.

The most exciting aspect of our program is out ongoing work with emergency management and emergency service organizations within the State of Florida. Our students and interns have worked in the Air Operations Branch of the State Emergency Response Team, and we have strong relationships with the State Fire College and many county Emergency Management organizations. These relationships allow us to develop research projects aimed at increasing the usage of UAS statewide.



Michigan State University

Check out their unmanned systems page here.

I spoke to **Hanish Mehta** at Michigan State University, the Founder and Captain of the MSU Unmanned Systems competitive team about MSU's UAS studies programs.

According to Hanish, MSU doesn't offer a complete Unmanned Aerial Systems major for students to focus on. However the next best thing would be for interested students to study mechanical or electrical engineering.

He went on to tell us:

" For example, the lab I currently work at, the Dynamic Systems Lab, is engaged in the development of control systems for rotary-wing UAVs and swarm flight control in conjunction with marine & land-based vehicles, to localize a specific chemical in the environment. The lab I previously worked at had tasked me to develop a semi-autonomous vehicle for methane localization in underground coal mines. The geography dept. at MSU utilizes a combination of fixed-wing and rotary-wing vehicles for remote sensing applications.

Primarily, our university has a competitive student aerial robotics team called MSU Unmanned Systems (http://www.msuus.com/), which is composed of nearly 15+ members and is one of the highly active engineering organizations on campus. Being in Michigan, it is very hard to find companies that provide exposure in the field of aerospace: This group was started to help students interested in the aerospace & defence sectors, gain the required exposure and connect with the industry via competitions and fund-raising activities conducted by the team. Next year onward, the team plans to compete at the AUVSI Intelligent Ground Vehicle Competition, as well, to help broaden the team's horizons."

One of the most exciting new developments at the MSU campus considering unmanned systems is the "Ventus" multirotor development. Hanish goes on to tell us

"Ventus is a heavy-lift aerial rig that our team system-engineered for the AUVSI Student Unmanned Aerial Systems 2016 competition, to be held in June at the Pax. River airbase. The quad-rotor, with a MTOW of nearly 6.15 kg and an endurance of around 20 minutes will be tasked to do lots of things like real-time image relay, autonomous target detection and classification, emergency supply drop, CASEVAC mission simulation, and fully-autonomous flight, of course. To achieve the targets outlined by competition, the team has engineering a lot of supporting equipment like a portable, off-grid ground control station, autonomous antenna tracker and other mechatronic systems for the vehicle."

University of Missouri

I spoke with Matthew Dickinson, instructor at the University of Missouri.

According to Matthew there's no official unmanned aerial systems major at the University of Missouri, which is something we're running into a lot with some of the larger universities. But there is major value in studying at these universities even if they don't have a specific major solely for studying UAVs.

The U of Missouri does have some great classes that involved the use or research of unmanned systems. For example their IT Program has a class for designing applications tailored around off-the-shelf UAS platforms. Matthew goes on to say

"In a more traditional sense, the Mechanical/Aerospace Engineering department offers courses related to aerodynamics, design, propulsion. In the School of Journalism, they offer a course related to using drones for journalism. Despite no formal program, the Mizzou Unmanned Systems Team (MUST) encourages students to work in a interdisciplinary manner towards the goals of research, education and participating in competitions. Overall, the University of Missouri offers a wide range of courses with the ability to apply these towards UAS knowledge."

The University of Missouri also has a Missouri Drone Journalism Program which is a collaboration between the college of engineering and the school of journalism. They work with the local NPR station on campus as well in order to facilitate learning Journalism while using drone technology. The (MUST) group has been awarded funding to pursue the teams goal of becoming #1 in the AUVSI Foundation student unmanned aerial systems competition in Maryland.

Brigham Young University

Check out the BYU Magicc Lab here.

I spoke with **Rose Allen** Operations Manager for the Center for Unmanned Aircraft Systems at BYU.

Brigham Young University doesn't offer a complete major in only Unmanned Aerial Systems, but as I've been doing the investigation for this article I've found there are very few universities who do offer a complete major of study for this. However, BYU is very involved in Unmanned Aerial Systems through their involvement with the Center for Unmanned Aircraft Systems (C-UAS). This is an Industry/University Cooperative Research Center (I/UCRC) established in 2012 and headquartered at Brigham Young University, though it also includes University of Colorado at Boulder and Virginia Tech. The center is the only National Science Foundation-funded unmanned aircraft research center. In addition to the NSF, C-UAS has more than 22 funding industry members including Facebook, Boeing, NASA, and the Air Force Research Laboratory.

This allows BYU students to become heavily involved in UAS research as they complete their degrees.

Rose went on to talk more about the C-UAS program at BYU.

"Students involved with C-UAS come from all engineering disciplines: mechanical, electrical, computer science, and civil engineering. They have the opportunity to work with faculty from their particular field on diverse UAS research problems. They also regularly interact with representatives from sponsoring industry members and future employers. At BYU the main labs involved are the MAGICC lab and the PRISM lab.
The opportunity to build relationships with top faculty researchers and graduate students, as well as with leading UAS industries is a strong reason to attend one of the participating schools and become involved with the research."

Some exciting happenings in UAV studies at BYU are that students publish regularly on their findings and, in the case of significant developments, also help file invention disclosures and patents.
Students also compete in the annual AUVSI Student UAV Competition and other challenges. In 2015 they led the way at the Perseus III Tech Demo sponsored by the United States Department of Defense, showcasing counter-UAS capabilities.

As you can see BYU is a great choice for a school if you're interested in studying Unmanned Aerial Systems.

University of Washington

Check out their programs here.

I spoke with Dr. Christopher Lum, Research Scientist at the William E. Boeing Department of Aeronautics & Astronautics at Washington University.

The University of Washington offers a Bachelor of Science in Aeronautical & Astronautical Engineering degree (BSAAE) as well as Masters and PhD degrees. The main reasons for students to choose UW for aerospace study have been answered here, but I would like to emphasize the "build relationship with industry" point. Every aspect of our program takes industry partnership into consideration – courses are designed to teach theory as well as real world methods used by engineers to solve problems, local industry sponsors and works directly with our senior capstone teams, and our labs are often partnered with commercial institutions.

Some of the groups and research labs that are going on at U of Washington lately are:

- Design,Build,Fly (DBF): A team of undergraduate students compete in an annual competition where they must design, fabricate, and demonstrate the flight capability of a UAS. The UW team is often sponsored by local industry.

- Autonomous Flight Systems Laboratory (AFLS): The lab is open to both graduate and undergraduate student researchers, and focuses on advancing guidance, navigation, and control technology related to unmanned systems. The lab also works to integrate this cutting edge technology into courses in the A&A Department.

- Senior Capstone (2016 and past years): Seniors in the BSAAE program have options for their senior capstone project. The can work in a large group to design either an aircraft or a space system, or they can join one of the small teams that are working directly with (and sponsored by) an industry partner. Some of these small teams are working to design a UAS, see the summary of one of these projects below:

TLG Aerospace, LLC, The Loads Group (McComas, Lum): Analysis and design of crop spraying/seeding capabilities for a fixed-wing UAV. Students will work with an existing fixed wing vehicle, apply for an FAA CoA and perform multiple flight tests (alternate flight locations available in the event of CoA delay).

The University of Washington offers plenty of opportunity for studying Aeronautics, even if they don't offer a specific major for Unmanned Aerial Studies.

Fresno State University

Check out there program here.

I spoke with Dr. Gregory Kriehn, (Ph.D), professor within the Electrical and Computer Engineering Department in Lyles College of Engineering at Fresno State. He also serves as the Lyles College of Engineering Honors Director. He is the primary Principle Investigator for UAS Research at Fresno State.

According to Dr. Kriehn:

"We do not currently offer a complete Unmanned Aircraft Systems accredited program. The most similar programs of study are in Electrical, Computer, and Mechanical Engineering. However, since the development and design of Unmanned Aircraft Systems involve mechanical, electrical, and computer engineering, each of these three fields emphasizes a different aspect of the broader field of mechatronics, of which UAS systems are a part."

He Continues to say:

"For students who chose to major in Mechanical Engineering, they also have the option of minoring in either Electrical or Computer Engineering, which creates a program of study that blends the fields more closely together for students interested in Mechatronics and UAS related work."

California State University, Fresno (Fresno State), has created a new Unmanned Systems Integration Laboratory, funded by Lockheed Martin, which supports joint teaching and research projects between Electrical and Computer Engineering, Mechanical Engineering, and Industrial Technology. The lab is supported by both the Lyles College of Engineering, as well as the Jordan College of Agricultural Sciences and Technology, allowing for both fundamental UAS research (Engineering), as well as applied research (Agricultural Science and Technology). More recently, we have begun partnering with Plant Science as well, in anticipation of expanding our UAS agricultural research and potential partnerships with the US Forest Service.

UAS research at Fresno State originated in 2007 with contract work for Edwards Air Force Base (EAFB), who routinely hire Fresno State graduates as engineers and engineering managers. Since then, we have increased the scope of our research to address the agricultural needs of the Central Valley of California using UAS platforms. As a result of the applied systems research done on campus, our UAS research students have been hired by the Air Force and Navy, Defense

Contractors, Geospatial companies such as Trimble, Drone Manufacturers, startup companies in Silicon Valley, and more traditional computing companies such as Intel. The students involved with UAS research at Fresno State have gained a reputation for having a significant competitive edge because of the hands-on systems engineering expertise that they develop as undergraduate students — which is exceptionally rare at the undergraduate level.

More recently, a new $20 million Jordan Agricultural Research Center will be completed in May 2016 on campus, which is a 30,000 sq. ft. state-of-the-art research facility to enable researchers from the Jordan College of Agricultural Science and Technology (JCAST), the College of Science and Mathematics, and the Lyles College of Engineering (LCOE) to work side-by-side and create a new atmosphere of interconnectivity. The joint UAS research program between CJAST and LCOE will be one of the featured laboratory spaces on the first floor of the new research center, along with a data visualization lab. This lab space is in addition to the Lockheed-Martin UAS laboratory currently being used.

Within the Lyles College of Engineering, undergraduate and graduate students are helping execute two UAS grant activities — one with the Univerity of California Division of Agriculture and Natural Resources (UC ANR), and one with NASA. The UC ANR Competitive Grant is a 5 year, joint UAS research effort between UC Merced, the UC Merced Cooperative Extension, and Fresno State. We are examining the use of UAS platforms for predicting yields in almond and pistachio trees by combining multi-spectral and NDVI imaging with embedded smart sensors in fields, and correlating collected data against stem water potential. The NASA grant is Minority University Research and Education Program (MUREP) with Somona State University, Napa Valley College, and Fresno State, whereby we are seeking to increase the pipeline of students transitioning from community colleges to 4-year higher educational institutions in STEM-related fields by creating a new rocketry and drone course for students to take at the community college level. The work also allows for community college students to participate in NASA internships or as research interns at Fresno State or Somona State.

As you can see, Fresno State has a LOT to offer to anyone seeking to study Unmanned Aerial Systems.

Well that's it, those are all the schools covered! If you liked this post **Tweet it or share it on Facebook!**. If you want to see your school included in this article please contact me at mike@dronethusiast.com.

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4 COMMENTS

Matt Bardeen
April 22, 2016 at 2:55 pm

This is a pretty US-centric list. A lot of the best work in UAVs is being done in ETH-Zurich and outside the US, principally because of the FAA's heavy handed policies.

Reply

Mike Plambeck
April 22, 2016 at 3:03 pm

Hi, I agree it is a 100% US centered list. I don't claim otherwise in the article. I'm sure there are great Universities abroad doing amazing things in the Unmanned Aerial field. I chose to focus solely on the USA because the logistics for trying to include every University in the world were going to get out of hand. I encourage any international universities who want to get added to this list to contact me and we can discus their programs!

Reply

Chris
April 27, 2016 at 6:10 pm

Any decent ones (if any) in the northeast?

Reply

Mike Plambeck
April 27, 2016 at 6:31 pm

On this list, Michigan is somewhat northeast. Ohio State had some good uas stuff going on at their school, research and things but they didn't respond to the interview. I wasn't able to cover every school so I'm sure there are some I missed.

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