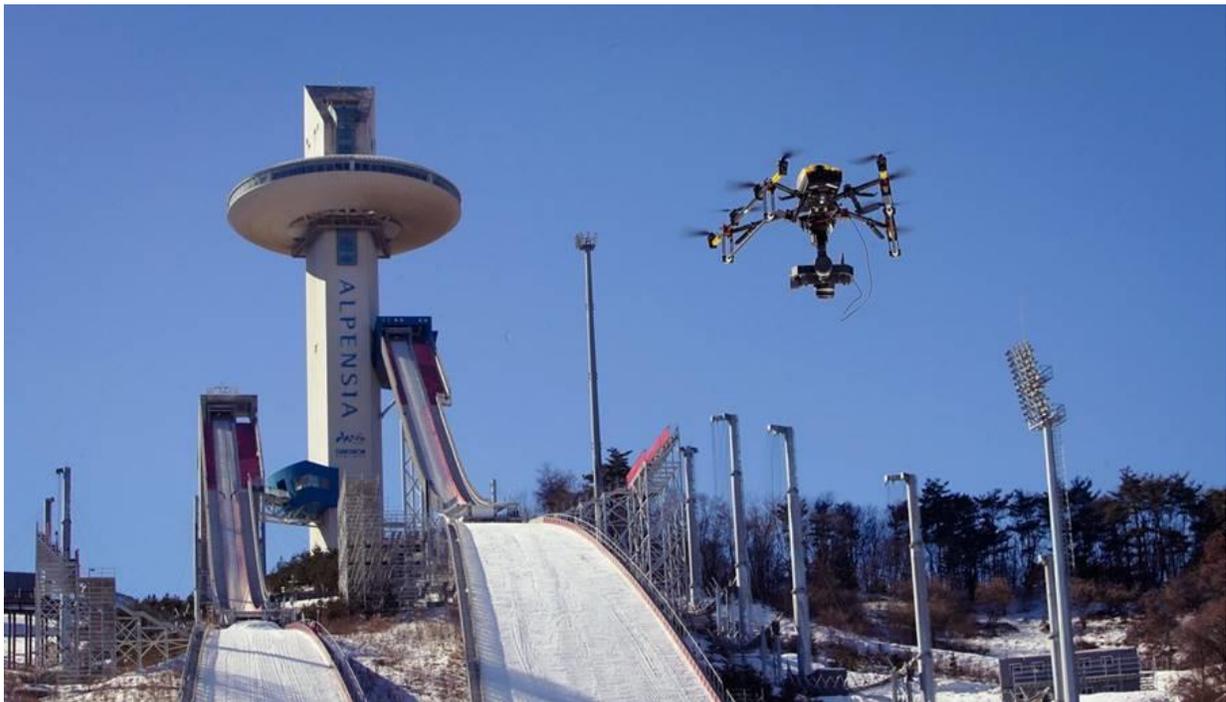




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Student Catalog 2018-2019



Volume No. 7

Oct/2018

**Provisionally Licensed by the
Arizona State Board for Private Postsecondary Education
www.azppse.gov**

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ABOUT THE UNIVERSITY and UNMANNED VEHICLES

Unmanned Vehicle University (UVU) was one of the first universities licensed to grant both a master's of science degree in unmanned vehicle systems engineering (with air, ground, sea or space emphasis), and a doctorate of science degree in unmanned vehicle systems engineering as well as a certificate in unmanned aerial vehicle (UAV) systems project management in a wholly online curriculum. The university's primary focus is on unmanned air, ground, sea and space systems education and training. Many of the university's instructors have earned Doctor of Philosophy (Ph.D.) degrees in engineering or related fields. They are subject matter experts in unmanned vehicles and systems. The university's unmanned aerial vehicle (UAV) instructor pilots have combined experience of over 60,000 hours in Predator, Reaper, Global Hawk, Hermes, Heron, Aerostar, and many small unmanned aerial systems (sUAS) such as the DJI Phantom and DJI Inspire.

An unmanned vehicle is defined as a vehicle without a human being onboard the vehicle. Unmanned vehicles typically fall into one of three general categories based on how they are controlled:

1. Unmanned vehicles that are remotely controlled and guided by a human being that is not located on board the vehicle, or
2. Completely autonomous unmanned vehicles which are capable of sensing their environment and controlling their own navigation without any human interaction, or
3. Unmanned vehicles that combine the control characteristics of both 1 and 2 above in the same vehicle.

Within these three general categories, there can be almost as many types of unmanned vehicles as there are manned vehicles. Examples of these various types of vehicles include the following:

1. Unmanned ground vehicle (UGV), such as the autonomous or driverless car.
2. Unmanned aerial vehicle (UAV) or unmanned aircraft (UA) commonly referred to as a "drone" by the media.
3. Unmanned combat aerial vehicle (UCAV), primarily designed for military use in combat.
4. Unmanned sea/surface vehicle (USV), an unmanned ship designed for operation on the surface of the water (sea, lake, etc.)..
5. Unmanned undersea or underwater vehicle (UUV), sometimes called an autonomous underwater vehicle (AUV) designed for the operations under water.
6. Unmanned spacecraft, both remote controlled ("unmanned space mission") and autonomous ("robotic spacecraft" or "space probe").

There also exist other types of unmanned vehicles such as unmanned trains, unmanned subways, unmanned farm equipment, etc.

Unmanned Vehicle University is focused on preparing students for a career in the growing field of civil and commercial unmanned vehicle systems markets. Traditionally, an unmanned aerial vehicle was a unoccupied reconnaissance vehicle or drone initially developed for military purposes to fly over combat zones and staging areas, dropping supplies to troops, releasing bombs, and carrying out intelligence, surveillance and reconnaissance missions on enemy forces. Based on this description and definition, most would believe that unmanned aerial vehicles are used strictly used for military benefits. This is not the case, nor is it the future. In recent years, the commercial uses and demand for unmanned aerial vehicles has greatly increased. One of the main purposes of an unmanned aerial vehicle is to collect valuable information via remote sensing technologies

for a variety of commercial industries. They may also be used to deliver messages, medicines, packages or products.

There are literally hundreds of commercial UAV applications and these are the focus of the training provided at UVU. Some examples include precision agriculture, wind turbine inspection, solar panel inspection, aerial thermography, cargo delivery (Amazon, FedEx, UPS and DHL are all investigating), wildfire management, and search and rescue. For commercial unmanned ground vehicles, driverless cars (also known as self-driving cars) are in the news and will continue to mature. Several major car companies have already announced driverless cars within the next five years. These companies will need specially trained systems engineers and technicians. The unmanned vehicle curriculum that UVU offers fills that void in today's universities and colleges. Unmanned underwater vehicles (UUVs) or autonomous underwater vehicles (AUVs) are used by oil and gas companies for underwater pipelines. Finally, NASA has moved away from the launch business and has awarded contracts to SpaceX and Orbital Sciences to perform commercial satellite launches. There are over 20 commercial launch companies that will need UVU-trained unmanned space vehicle systems engineers.

Mission

The mission of UVU is to provide quality distance educational offerings to educate the workforce, technology leaders, and entrepreneurs who will develop and use the unmanned systems of the future.

The mission of UVU is to educate the workforce, technology leaders, and entrepreneurs who will develop and use the unmanned vehicle systems of the future. Our central focus is to apply the principles of systems engineering to make unmanned vehicles more reliable, safe and efficient. We believe it is essential to educate unmanned vehicle systems engineers through a multidisciplinary program containing aeronautical, electrical, mechanical, and systems engineering courses as well as project management courses. All academic courses are conducted online using state-of-the-art distance learning technology and methods.

Vision

Unmanned Vehicle University exists to create a brilliant future for students and instructors to make significant contributions to the body of knowledge in the unmanned systems industry. By extending our reach globally, **we will be recognized as a global leader in influencing major technical, social, economic, and policy decisions on unmanned vehicle systems.**

Program Objectives

Graduates with the Master of Science Degree in Unmanned Vehicle Systems Engineering will be able to fulfill the following educational objectives:

1. Master the principles of systems engineering to prepare students to manage the development of new unmanned systems.
2. Demonstrate a strong technical knowledge in their field so that they can lead and direct engineering and scientific industry teams in their chosen field of study.

3. Foster innovation of new ideas, methods and techniques in unmanned systems engineering.

Graduates with the Doctor of Science Degree in Unmanned Vehicle Systems Engineering will be able to fulfill the following educational objectives:

1. Demonstrate an ability to conduct original independent research and make significant contributions to the current body of scientific knowledge in unmanned systems technology and development.
2. Develop and apply advanced experimental and/or computational skills appropriate to a professional researcher in the field of unmanned systems.
3. Lead unmanned systems research programs and communicate the findings in scientific forums.
4. Reach the highest academic level with the potential to become a leader and an authority in unmanned systems and technologies.

Graduates with the Professional Certificate in Unmanned Vehicle Systems Project Management will be able to fulfill the following educational objectives:

1. Demonstrate project management skills that allow graduates to lead projects and/or contribute to the development of new unmanned vehicle systems and related sub-systems.
2. Demonstrate knowledge of systems engineering principles that allows graduates to manage and/or contribute to the development of new unmanned vehicle systems and related sub-systems.

Program Goals

The purpose of the Master's of Science (MS) program is to provide students with the knowledge and skills necessary for a journeyman level professional career in unmanned systems engineering or to prepare students for their doctoral studies. This is done through course work providing specialization in one area of unmanned systems engineering and breadth in several other areas. Areas of specialization include unmanned air, ground, sea and space systems engineering.

The purpose of the Doctor of Science (DSc) program is to provide candidates with the opportunity to demonstrate substantial scholarship and an ability to conduct independent research in the area of unmanned vehicle systems and unmanned technologies. Through academic course work and guided research, the program prepares DSc graduates to make new and original contributions in the field Unmanned Vehicle Systems and related technical fields.

Background of UVU

Unmanned Vehicle University was founded in 2012 and is currently located in the heart of downtown Phoenix, Arizona. Unmanned Vehicle University was one of the first universities in the world licensed to grant both masters of science degrees in unmanned systems engineering, doctorate degrees in unmanned systems engineering, and a certificate in unmanned vehicle systems project management in a completely online, distance-learning curriculum. These graduate programs prepare students for positions as program/project manager, program integration

manager, business area manager, chief engineer, chief technical officer, systems engineer, consultant, analyst, researcher, and others. The project management certificate prepares students for a job as a project manager, field engineer, technical writer, quality assurance manager, cost accountant, logistics manager, integration technician, test analyst and aviation data monitor. Graduates may be responsible for planning, coordinating, and budgeting group efforts that translate operational needs into technology requirements. Our students learn the necessary skills to determine whether a system will meet cost, schedule, and performance goals. Systems engineers, systems researchers and systems technicians perform a central role in realizing the success of unmanned systems. These professionals are in great demand by both industry and government.

UVU students will learn a "big-picture" view of unmanned vehicle systems that considers every aspect of a project, from costs and environmental impact, to time lines and life expectancy of equipment. The student is exposed to electrical, aeronautical, mechanical and systems engineering disciplines and associated physics and mathematics. This interdisciplinary degree program covers modeling, simulation, design, architecture, integration, man-machine-interface, integration and testing of complex unmanned vehicle systems, technologies, and processes. Students learn the underlying theoretical knowledge and are exposed to practical experiences applicable to unmanned systems development. An unmanned vehicle systems engineering degree will provide expert knowledge so that graduates can apply for employment in engineering, design, development, integration and test of unmanned air, ground, sea and space systems. Entrepreneurs will find the knowledge gained during these courses essential to successfully starting up their own small business.

The Project Management course includes preparation for the entry level International Council on Systems Engineering's (INCOSE) Associate Systems Engineering Professional (ASEP) certification examination. INCOSE certification formally recognizes an individual's competency in the systems engineering process, and is widely acknowledged as a significant accomplishment by practitioners in the field.

Licensure

Unmanned Vehicle University is provisionally licensed by the Arizona State Board for Private Postsecondary Education to grant Master of Science degrees in Unmanned Vehicle Systems Engineering (air, ground, sea, or space emphasis), Doctor of Science degrees in Unmanned Vehicle Systems Engineering (air, ground, sea, or space emphasis) and a certificate in unmanned vehicle systems project management.

Contact Arizona State Board for Private Postsecondary Education:

Website: www.azppse.gov

Telephone: 602.542.5709

Academic Integrity

All students are expected to adhere to the highest standards of academic integrity and compliance with the university's Distance Student Code of Conduct throughout all academic coursework and research activities.

Violations of academic integrity include, but are not limited to: cheating, fabrication of data, tampering, plagiarism, or aiding and/or facilitating such activities. At the graduate level, it is expected that students are familiar with these issues and that each student assumes personal responsibility for their own academic work.

Graduate Student Responsibilities

All graduate students enrolled at Unmanned Vehicle University are responsible for familiarizing themselves with all university and graduate policies and procedures. Each student should communicate directly with the university to ensure clarity on the expectations for degree completion.

Academic Year

Unmanned Vehicle University operates on a 12 week term schedule. For 2018 the term dates are as follows:

CY 2018

Term 1: 2 January to 25 March
Term 2: 2 April to 24 June
Term 3: 2 July to 23 September
Term 4: 1 October to 23 December

CY 2019

Term 1: 2 January to 24 March
Term 2: 1 April to 23 June
Term 3: 1 July to 22 September
Term 4: 30 September to 22 December

Educational Delivery

Courses at UVU utilize a distance education model. Distance education is a formal educational process in which the majority of the instruction (interaction between students and instructors) in a course occurs when students and instructors are not in the same place. Instruction may occur synchronously or asynchronously, but all UVU courses are designed to be accessed asynchronously, meaning the student and the instructor does not have to be present at the same time. Lectures are recorded, and students may access the lectures online at their convenience. This eliminates time zone issues where the student and the instructor may be in different parts of the country or the world. High speed internet access is highly recommended, but not required. Distance education courses at UVU require internet access to the Canvas Learning Management System (LMS) used by UVU. Students may access the Canvas LMS once they have been assigned a student username and a password. Canvas is an open source, widely used LMS and is compatible with desktops, laptops, tablets, and smart phones using all the commonly-used operating systems. Canvas is used by more than 3,000 universities, school districts, and institutions around the world. More information on Canvas can be found at www.canvaslms.com/.

APPLICATION PROCESS

Application Submission

Unmanned Vehicle University offers an open enrollment policy allowing students to apply for and enroll into a degree program or certificate program prior to any term. Prospective students interested in applying to the Master of Science in Unmanned Vehicle Systems Engineering degree

program or Doctor of Science in Unmanned Vehicle Systems Engineering degree program need to complete and submit the current application for admission.

Admissions Requirements

Master's of Science in Unmanned Vehicle Systems Engineering Degree

- University Application (Application Fee - \$25)
- Enrollment agreement
- A Bachelor's degree in any field (note that some UVU classes have higher level math course prerequisites that may be taken at UVU if not already completed at another institution)
- Minimum of 3.0 GPA from their previous degree
- Two letters of recommendation addressing your academic achievement and professional accomplishments. Typically these are from former professors or supervisors
- Official transcripts from all colleges/universities attended*

Doctor of Science in Unmanned Vehicle Systems Engineering Degree

- University Application (Application Fee - \$25)
- Enrollment agreement
- A Master's degree in any field (note that some UVU classes have higher level math course prerequisites that may be taken at UVU if not already completed at another institution)
- Minimum of 3.0 GPA from their previous degree
- Two letters of recommendation addressing your academic achievement and professional accomplishments. Typically these are from former professors or supervisors
- Official Transcripts from all colleges/universities attended*

Professional Certificate in Unmanned Vehicle Systems Project Management

- University Application (Application Fee - \$25)
- Enrollment agreement
- High School Diploma
- Minimum of 2.0 GPA from high school

*To be considered official, all transcripts must be received by Unmanned Vehicle University directly from the sending institution. Have transcripts sent to:

**Unmanned Vehicle University
Attn: Registrar
One Renaissance Tower
2 N. Central Ave
18th and 19th Floors
Phoenix, AZ 85004**

Unmanned Vehicle University does not require graduate student applicants to submit scores from national admissions tests such as the Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), or the Miller Analogies Test.

International Applicants

Prospective international students with non-U.S. educational credentials must first obtain a foreign credentials evaluation from, Educational Credential Evaluators, Inc. (ECE), Post Office Box 92970 Milwaukee, WI 53202-0970, Tel: 414.289.3400, Fax: 414.289.3411, or another independent U.S. evaluation service approved by the university. Request forms and cost information are available on the ECE website (www.ece.org). International applicants seeking admission to graduate programs must obtain a general evaluation. Applicants interested in requesting transfer credits will need to obtain individual subject evaluations.

***Transcripts not in English must be evaluated by an appropriate third party and translated into English or evaluated by a trained transcript evaluator fluent in the language on the transcript. In this case, the evaluator must have expertise in the educational practices of the country of origin and include an English translation of the review. It is the responsibility of the prospective student to have this translation done and the student is responsible for any fees associated with the translation services.*

English Language Requirement

Applicants whose native language is not English and who have not earned a degree from an appropriately accredited institution where English is the principal language of instruction must demonstrate college-level proficiency in English through one of the following to meet admission requirements:

- Master of Science Degree: A minimum score of 530 on the paper-based Test of English as a Foreign Language (TOEFL PBT), or 71 on the Internet Based Test (IBT), 6.5 on the International English Language Test (IELTS), or 50 on the Pearson Test of English Academic (PTE Academic) Score Report.
- Doctoral of Science Degree: A minimum score of 550 on the paper-based Test of English as a Foreign Language (TOEFL PBT), or 80 on the Internet Based Test (IBT), a 6.5 on the International English Language Test (IELTS), or 58 on the Pearson Test of English Academic (PTE Academic) Score Report.
- A minimum grade of Level 3 on the ACT COMPASS's English as a Second Language Placement Test;
- A minimum grade of Pre-1 on the Eiken English Proficiency Exam;
- A minimum B-2 English proficiency level identified within the Common European Framework of Reference (CEFR) standards and assessed through various ESOL examinations, including the University of Cambridge;
- A transcript indicating completion of at least 30 semester credit hours with an average of "B" or higher for Master of Science or Doctor of Science Degree.

Transfer Credits

The acceptance of transfer credits between institutions lies within the discretion of the receiving college or university. Credits earned at other institutions may or may not be accepted by Unmanned Vehicle University. Likewise, credits earned at Unmanned Vehicle University may or may not be accepted by another institution depending upon the institution's own programs, policies, and regulations. Students planning to complete college or university credits elsewhere before applying to Unmanned Vehicle University are advised to contact the Admissions Office and check on the transferability of credits from their current or former institution with a C or better prior to enrolling in Unmanned Vehicle University. The prospective student must provide UVU with a detailed course description or course syllabus from the current or previous university that matches the course name and number on their official transcript. Likewise, any student relying on Unmanned Vehicle University credits for transfer to or enrollment in another institution is urged to check with that gaining institution prior to enrollment.

Perspective UVU students must send official transcripts from previous colleges/universities in which they wish to transfer credit to admissions@uxvuniversity.com. Transfer credits will be reviewed by the admissions personnel as well as course subject matter experts and a determination will be sent to the student via email within 4 weeks.

Certificate Program – Transfer Credits Maximum

Students pursuing a Certificate Program may transfer up to 4 credit hours from an appropriately accredited institution(s), which satisfy the subject matter and curriculum requirements of the student’s chosen program at Unmanned Vehicle University.

Master’s of Science Degree – Transfer Credits Maximum

Students pursuing a Master’s Degree may transfer up to 8 credit hours from an appropriately accredited institution(s), which satisfy the subject matter, and curriculum requirements of the student’s chosen program of study at Unmanned Vehicle University.

Doctorate of Science Degree – Transfer Credits Maximum

Students pursuing a doctoral degree may transfer up to 12 credit hours from an appropriately accredited institution(s), which satisfy the subject matter, and curriculum requirements of the student’s chosen program of study at Unmanned Vehicle University.

Type of Education or Training Program	Maximum Number of Transfer Credits Allowed
Certificate (Vocational-Technical) Program	4 Credits
Masters of Science Degree Program	8 Credits
Doctorate of Science Degree Program	12 Credits

Students may request to transfer credits upon enrollment in the first course of the students’ chosen program. Students need to provide appropriate documentation of the successfully completed course. Appropriate documentation includes official transcripts and a copy of the institution’s catalog or syllabi describing the course(s) requested for transfer. A Student’s tuition will be reduced upon acceptance of transfer credits.

**Transfer credit towards a program may be awarded for postsecondary courses completed by a student at other appropriately accredited institutions if such courses are found to meet the standards of Unmanned Vehicle University and the requirements of the specific program and must include a passing grade from the student. Unmanned Vehicle University reserves the right to accept or reject any or all academic credits offered for transfer.*

Enrollment Process

Upon receipt of all admissions materials and payment of application fee, prospective students will be notified of their acceptance into the degree program by formal letter sent by email within 7 days. After the admissions materials are reviewed the student will be contacted by email to communicate acceptance into the program. The enrollment agreement (also contained in Appendix 1) will need to be completed, signed and submitted to the University before the start of the first course.

Enrollment Period

Once admitted to a graduate degree program or certificate program, students must complete their programs within maximum time periods. Doctoral students must complete the program in 6

years, Masters Students in 3 years and Certificate students in 1.5 years. If these time periods are exceeded, administrative withdrawal will be processed.

Withdrawal

Students seeking to officially withdraw from a degree program should notify Unmanned Vehicle University and request any applicable tuition refund. Students may notify the University of his or her intent to withdraw in any manner. The withdrawal procedure is as follows:

- The student may notify the university in any manner (writing is required) of his or her intent to withdraw from a degree program and request any applicable tuition refunds.
- Refunds, if any, will be issued according to the stated university policy as outlined in the student catalog and enrollment agreement.
- All remaining fees or tuition balances, subject to any offset for refund, must be paid in full at the time of withdrawal.
- The withdrawal will become official when the student receives final written notification from the Registrar.

Additionally, the university may initiate a student's withdrawal if there is a violation of satisfactory academic progress, conduct policy, or financial responsibilities.

Tuition

The estimated total cost for the Doctorate of Science Degree in Unmanned Vehicle Systems Engineering Program:

Tuition: \$24,000 (over 3 years)

Fees/Books/Supplies approx. \$1200 (but may be less depending on text required for course)

Application Fee \$25

Total Program Costs \$25,225

The total cost for the Master of Science Degree in Unmanned Vehicle Systems Engineering Program:

Tuition: \$14,400 (over 2 years)

Fees/Books/Supplies approx. \$900 (depending on courses taken)

Application Fee \$25

Total Program Costs \$15,325

The total cost for the Certificate in Unmanned Vehicle Systems Project Management Program:

Tuition: \$6,400 (over 1 year)

Fees/Books/Supplies approx. \$1,400 (program requires a drone to be designed and built)

Application Fee \$25

Total Program Costs \$7,825

All courses must be paid in full prior to the start of each term or student will be removed from courses.

Discounts

UVU offers 50% off tuition to military veteran's with an official DD214.

Payment Method and Terms of Payment

(Payment to comply with R4-39-405)

1. Tuition deposit of \$1600/\$2400 (4 credit hours/6 credit hours) is due with signing of the enrollment agreement.

2. The student is required to pay \$1600 for each four credit hour course and \$2400 for each six credit hour course before the beginning of each course.
3. Payment methods accepted include cash, check, money order, and credit card.

Cancellation and Refund Policy

An applicant denied admission by Unmanned Vehicle University is entitled to a 100% refund.

Within Five-Day Cancellation prior to course commencement

An applicant who provides written notice of cancellation within five (5) days (excluding Saturday, Sunday, and federal or state holidays) of signing an enrollment agreement is entitled to a refund of all monies paid. Partial weeks will be counted as full weeks. No later than thirty (30) days after receiving the notice of cancellation, the University shall provide the student with a 100% refund of all monies paid.

Cancellation and Refund after the commencement of course

If for any reason a student chooses to withdraw from a program, Unmanned Vehicle University has established this refund policy for the student’s protection. A student may terminate their enrollment at any time by notifying Unmanned Vehicle University in any manner (Email, FAX, or in writing, but in writing is preferred). Cancellations may be sent to:

Address: One Renaissance Tower, 2 N. Central Ave, 18th and 19th Floors, Phoenix, Arizona 85004
 Telephone: 866-716-8519
 Email: admissions@uxvuniversity.com
 Website: www.uxvuniversity.com

Tuition charges/refunds:

Before the course begins, the student is entitled to a refund of 100% of tuition. After the course begins, tuition refunds (less the registration fee) is according to the following table:

Student Refund Policy

12 Week Courses	
Percentage (%) of weeks attempted	Student Tuition Refund Percentage*
10% or less	90%
More than 10% and less than or equal to 20%	80%
More than 20% and less than or equal to 30%	70%
More than 30% and less than or equal to 40%	60%
More than 40% and less than or equal to 50%	50%
More than 50%	No Refund is required

Refunds will be issued within 30 days of the date of student notification of cancellation, the date of University determination (withdrawn due to absences or other criteria as specified in the University catalog), or in the case of a student not returning from an authorized Leave of Absence (LOA), within 30 days of the date the student was scheduled to return from the LOA and did not return.

All books, supplies and fees are not refundable unless unopened and undamaged.

Hours of Operation

UVU is an online university so students or potential students may contact faculty and staff via email 24/7.

STUDENT GRIEVANCE PROCEDURE

Purpose: The primary objective of the UVU Student Grievance Procedure is to ensure that students are provided with the opportunity to present grievances to the University regarding a certain action or inaction by a member of the University community and that the University provides students with a consistent way of resolving grievances in a fair and just manner.

Step 1. If a student decides to file a grievance, he or she must verbally express the concern with the faculty or staff member in which the problem has risen.

Step 2: If the problem is not resolved, the student must then submit the complaint in writing to the faculty or staff member in which the problem has risen and copy the Dean of Academic Affairs or designee within 10 days.

Step 3: If the problem persists, the student may present the grievance in writing to the Provost of the University or designee. The student must submit the grievance within 45 calendar days after the student first became aware of the facts that caused the grievance. The Provost or designee will conduct an investigation, make a determination and submit his or her decision in writing to the student and to the person alleged to have caused the grievance within 10 calendar days of receipt of the grievance. The written determination shall include the reasons for the decision and indicate the remedial action to be taken, if any.

Step 4: If the complaint cannot be resolved with the student by the Provost, it will be elevated to the President for further evaluation. The President will respond within 10 days.

Step 5: If the complaint cannot be resolved after exhausting the institution's grievance procedure, the student may file a complaint with the Arizona State Board for Private Postsecondary Education. The student must contact the State Board for further details. The State Board address is: 1740 W. Adams St, Suite 3008, Phoenix, AZ 85007, Phone: 602-542-5709, website: www.azppse.gov

Arizona State Board for Private Postsecondary Education
1740 W. Adams, Suite 3008
Phoenix, AZ 85007
Phone # 602-542-5709
Website address: www.azppse.gov

Returned Check Policy

A charge of \$25.00 will be incurred for all returned checks. Should a student have checks dishonored on more than two occasions, the university reserves the right to require payment by cashier's check, money order, or credit card.

Requesting Official Transcripts

To request an official transcript, complete the official transcript request form found on the university website and submit it to the university by email or mail accompanied by a \$10.00 fee.

ACADEMIC PROGRESS

Satisfactory Academic Student Progress

It is the intent of Unmanned Vehicle University that its students make satisfactory progress toward his or her program objectives and achieve academic success. Satisfactory academic progress is monitored at the end of each term. Students are required to maintain the following:

- Certificate students must maintain a cumulative 2.0 grade point average.
 - Certificate students are expected to complete their program in a maximum of one and a half years or prior to reaching 150% of the number of credits required for the certificate (36 credit hours).
- Master of Science degree students must maintain a cumulative 3.0 grade point average.
 - Master of Science students are expected to complete the degree program within 3 years or prior to reaching 150% of the number of credits required for the program (54 credit hours)
- Doctor of Science degree students must maintain a cumulative 3.0 grade point average.
 - Graduate students are expected to complete doctoral degree academics in a minimum of three years and must complete the entire degree program (including acceptable dissertation defense) in a maximum of six years or prior to reaching 150% of the number of credits required for the program (90 credit hours)
 - Doctoral students must graduate within three years after passing comprehensive examinations.

Inactive Status

In the event that the university fails to receive any coursework from a student within an eight (8) week period, he or she will be placed on inactive status. Inactive status in no way suspends any financial obligations students may have to the university. If a student chooses not to register for courses in the next term, he/she will be placed on an inactive status for up to one year. Inactive status will turn to an automatic leave of absence at the end of the term in which the student has stopped participating. (The student is allowed to remain inactive as long as the student completes his/her program within the maximum time period).

Academic Probation and Suspension

If a certificate student's cumulative grade point average falls below 2.0 and if a graduate student's cumulative grade point average falls below 3.0 or if a student fails to make satisfactory progress, probation occurs. A student on academic probation has a maximum of one term to raise the cumulative average above the minimum standard, either by completing additional courses or repeating courses bearing inadequate grades, or completing the required coursework within the term time frame. When a course is repeated, the original grade is replaced by the subsequent

course grade. The cost for repeating the course is determined by the current tuition schedule outlined on the enrollment agreement. Academic suspension will follow only if a student is unable to return to satisfactory progress within one term. Suspended students may apply for readmission to the university after a period of one year. Being placed on academic probation in no way suspends any financial obligations a student may have to the university.

Unmanned Vehicle University – Student Academic Conduct Policy

Unmanned Vehicle University is an academic distance learning community. Its fundamental purpose is the pursuit of knowledge. Like all other communities, the university can function properly only if its members adhere to clearly established goals and values. Essential to the fundamental purpose of the university is the commitment to the principles of truth and academic honesty. Accordingly, the Honor Code is designed to ensure that the principles of academic honesty are upheld. While all members of the university share this responsibility, the Honor Code is designed so that special responsibility for upholding the principle of academic honesty lies with the students.

Any of the following acts, when committed by a student, shall constitute academic dishonesty:

Cheating: intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise.

- Cheating of any kind.

Fabrication: intentional and unauthorized falsification or invention of any information or citation in an academic exercise.

- Falsification of any oral or written examination, record, assignment, or report.
- Representing oneself as another student for the purpose of taking an examination or allowing oneself to be represented by another for the same reason.
- Furnishing false or misleading information to university officials or on official records.
- Forging, altering, or misusing the university name, the name of university employees, documents, records, or identification.

Facilitating Academic Dishonesty: intentionally or knowingly helping or attempting to help another to violate any provision of the Honor Code.

- Collaborating with another student during an oral or written examination without permission.
- Collusion by obtaining or giving another student unauthorized assistance with coursework.
- Knowingly using, buying, selling, stealing, or soliciting contents of an oral or written examination, record, assignment, or report.
- Representing oneself as another student for the purpose of taking an examination or allowing oneself to be represented by another for the same reason.
- Using any technology to infringe upon the rights of others.
- Using technology (or verbally threatening to do so) to take any action which endangers or impairs the safety, health, life, or freedom of any person affiliated with Unmanned Vehicle University.
- If it is determined by a student's instructor or a staff member, that plagiarism has occurred; the student will receive a grade of XF (failure due to academic dishonesty).

Plagiarism: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise.

- Plagiarism (in any form).
- Using material not authorized by the university's curriculum to complete an assignment or oral and written examination without permission.
- Knowingly using, buying, selling, stealing, or soliciting contents of an oral or written examination, record, assignment, or report.
- If plagiarism re-occurs, the student's enrollment at Unmanned Vehicle University may be suspended.

Students must affirm to the following: I will adhere to high ethical standards in the pursuit of my education and to the best of my ability will:

- Conduct myself with professionalism, courtesy, and respect for others in all of my dealings with the university, instructors, administrators, staff, and other students.
- Present my qualifications and background truthfully and accurately for admission to the university.
- Observe the university policies and rules on submitting work, completing oral and written examinations, participating in discussions, and conducting research.
- Never turn in work that is not my own, or present another person's ideas or scholarship as my own.
- Never ask for, receive, or give unauthorized help on graded assignments, oral or written examinations.
- Never use outside books or papers which are unauthorized by the university's curriculum and instruction.
- Never divulge the content of assignments or oral and written examinations to fellow students.
- Never improperly use, destroy, forge, or alter the university's documents, transcripts, or other records.
- Never divulge my online university username or password.
- Always observe the recommended study schedule for my program of study.

Always report any violations of this Code of Conduct to the appropriate institution official, and report any evidence of cheating, plagiarism (in all forms), or improper conduct on the part of any student of the university when I have direct knowledge of these activities.

If it is determined that an act of academic dishonesty has occurred, a grade of XF is considered the normal sanction for students. The grade of XF is noted on the academic transcript as failure due to academic dishonesty. Lesser or more severe sanctions may be imposed when there are circumstances to warrant such a consideration. Dismissal from the university may be imposed even for a first offense.

Students not conducting themselves in a professional and courteous manner in the classroom environment or students who violate any policy of Unmanned Vehicle University may also be in breach of student responsibilities and subject to action up to and including dismissal from the university.

All students at Unmanned Vehicle University are expected to be honorable and observe standards of conduct appropriate to a community of scholars. The university promotes, as part of its mission and purpose, the development of men and women of integrity, strong character and responsibility. Honesty and dependable self-discipline are extremely important. Students must commit to satisfactorily completing all coursework within the required time frames. The university expects

students to actively pursue their studies and regularly submit coursework. Students agree to fulfill all financial responsibilities to Unmanned Vehicle University.

GRADING POLICIES

Grading System

Unmanned Vehicle University uses the following system of grading:

A	90-100	4.00
B	80-89	3.00
C	70-79	2.00
D	60-69	1.00
F	Failure	0.00
I	Incomplete	
W	Withdrawal	
O	Audit	
XF	Academic Dishonesty	
CP	Complete	

*This grading policy was updated starting April 2018 (Term 2) for all newly enrolled students.

Incomplete Grades

A mark of "I" (incomplete) is given by an instructor when a student completes a majority of the work (80%) but is unable to complete the course due to illness or other conditions beyond the student's control within the term. Students are required to arrange with the instructor for the completion of the course requirements within the next term of enrollment.

Policy on Grade Reports

Within two weeks after completion of a course a grade will be sent to the student.

Dissertation

A doctoral dissertation manual is provided to each student enrolled in the doctor of science degree program. The manual explains how to read and write and conduct research and provides a description of the format for reporting results. After passing a comprehensive exam, the student must first submit a proposal to the dissertation committee. After approval, the student works with his committee. The student meets periodically with the major professor to discuss work and progress. The major professor guides the student's interpretation by asking questions. The major professor provides guidance for future work. The importance of advancing the body of knowledge is emphasized during the dissertation research period. Students are encouraged to reference current technology developments to determine the applicability to their area of research. The major professor is also a source of information to provide current state of the art.

Graduation Requirements

In order to graduate, students of the Master of Science in Unmanned Vehicle Systems Engineering Program must have successfully completed the following requirements

- A minimum of 36 semester credit hours of course work
- A grade point average (GPA) of 3.0 out of 4.0
- A maximum of three years for completion of all coursework
- Pass a comprehensive examination covering all coursework

In order to graduate, students of the Doctor of Science in Unmanned Vehicle Systems Engineering Program must have successfully completed the following requirements

- A minimum of 60 semester credit hours of course work
- A grade point average (GPA) of 3.0 out of 4.0
- Pass a DSc qualifying exam after completing all coursework (typically within 3-4 years of initial enrollment)
- Complete a minimum of 12 credit hours (three terms) but not more than 15 credit hours (four terms) of research for their dissertation
- Submit and defend an acceptable dissertation
- A maximum of six years for completion of all coursework and dissertation defense

Graduation

Degrees are conferred when all program requirements are satisfactorily completed. Students submit Intent to Graduate Form in their final term of enrollment. This form can be obtained from the Registrar's Office. Once the completed form has been received, the Registrar initiates a degree audit to confirm all program requirements have been or will be met upon completion of the final term.

UNIVERSITY POLICIES

Off-Campus Study

Unmanned Vehicle University does not require on-campus attendance. All coursework can be completed online through distance education.

Time Commitment for Degree Programs

UVU operates on a 4 term basis with each academic term being 12 weeks in duration. There is a one week break between any two terms as shown in the table below. Students may enroll and begin a graduate degree program or certificate program at Unmanned Vehicle University prior to or at the beginning of any academic term (Term 1, Term 2, Term 3, Term 4). The anticipated weekly time commitment is approximately 10-15 hours per week in a four credit course to make satisfactory academic progress through the requirements of the course.

Tax Deductible Educational Expense

While a personal accountant or Certified Public Accountant can best advise students regarding tax deductions, it is important to remember that the United States Code of Federal Regulations, Title 26, Section 1.162-5, Expenses for Education allows for personal income tax deduction of educational expenses including tuition, cost of travel, meals, lodging, etc., so long as they: 1) maintain or improve skills required by the individual in his employment or other trade or business, or 2) meet the express requirements of the individual's employer, or the requirements of applicable law or regulations, imposed as a condition to the retention by the individual of an established employment relationship, status, or rate of compensation.

Student Change of Mailing or Email Addresses

It is the responsibility of the student to notify the university with regard to any change of mailing or email addresses. All correspondence will be sent to the last mailing or email address the university receives from the student.

Student Privacy Rights

The Family Educational Rights and Privacy Act of 1974 (FERPA) is a federal law designed to protect the privacy of and limit access to student educational records. FERPA grants to students certain rights, privileges and protections relative to the identifiable information contained within their educational records maintained by the University. Specifically:

- Students have some control over the disclosure of information. A student's educational records (with the exception of directory information) will be released to third parties outside the University only with the consent of the student.
- Students have the right to inspect, review and request amendment of their educational records.
- Students have the right to challenge information contained within their educational records.
- Students have the right to file a complaint with the U.S. Department of Education if they believe their rights under FERPA are violated.

Educational records covered by FERPA include grades, housing information, financial status, results of disciplinary proceedings, etc. FERPA does not apply to Medical, Disability and Counseling records, which are confidential and protected.

FERPA permits the release of directory-type information to third parties outside the institution without written consent. Students may file a request for non-disclosure of Student Directory Information, meaning no information, including directory information, will be released, except as required by law by emailing: admissions@uxvuniversity.com. This means that the University cannot verify enrollment and degrees earned requests from potential employers or insurance companies. Requests from the student for Enrollment Verifications or Transcripts may be honored regardless of the hold with verified student authorization. Requests for non-disclosure remain in effect even after graduation and may be rescinded with a verified signature. For students who have rescinded their Non-disclosure and left the University, it can only be reinstated if the individual re-enrolls.

Directory information includes

- Name
- UVU e-mail or box address
- Campus, school, or college attended
- Course of study and areas of specialization
- Dates admitted, attended, and graduated
- Enrollment and class status (freshman, senior, full-time, part-time, etc.)
- Degrees sought or earned and dates received or anticipated
- Awards, honors, and special programs or recognitions

The following is also included as Directory Information, but is only released for compelling reasons and only with advance approval of the student, and Registrar, Provost or their designee:

- Permanent or local mailing addresses and telephone numbers
- Non-UVU email addresses or account information
- Date of birth

- Factual disciplinary history, including the results of disciplinary processes or the fact that action was pending at the time of withdrawal
- Information from public sources

Directory information cannot include a student's identification number or social security number, race, ethnicity, nationality or gender.

To request Non-Disclosure of Directory Information:

A student must submit a request for non-disclosure of directory information by emailing: admissions@uxvuniversity.com.

Non-directory information contained within a student's educational record may include grades, GPA, disciplinary proceedings, and social security and student numbers. Disclosure of non-directory, personally identifiable information requires student consent. This means that the University must withhold such information from parents and others, who believe their relationship with the student entitles them to have the information (even on occasions when the student prefers the information be released), if consent for release is not given.

Consent for release is not required for disclosure:

- to school officials, including the National Student Clearinghouse, with legitimate educational interests;
- to state, federal and local authorities conducting audits, evaluations or enforcement of education programs, or to organizations working on their behalf;
- to accrediting organizations;
- in connection with financial aid;
- to parents of a dependent child when the most recent tax return is provided;
- in compliance with a lawfully issued subpoena;
- in a health or safety emergency.

Statement of Non-Discrimination

UVU does not discriminate in its admissions because of race, color, national or ethnic origin, age, religion, disability, sex, sexual orientation, gender identity and expression, veteran status (special disabled veterans, disabled veterans and Vietnam-era veterans), or any other characteristic protected under applicable federal or state law. If a student is concerned about a possible discrimination, submit those concerns to: admissions@uxvuniversity.com

Accommodations for Students with Disabilities

Unmanned Vehicle University is an Equal Opportunity Educational institution and is committed to providing access to students with disabilities in accordance with [Section 504 of the Rehabilitation Act and the Americans with Disabilities Act of 1990 \(ADA\)](#).

Applicants, prospective students or current students with disabilities have the following rights and responsibilities:

- Have the right to equal access to all programs.
- Disability records will be maintained separately from academic records; disability records will be used solely to determine appropriate services.
- Have the responsibility to give advance notification of accommodations needed prior to the beginning of enrollment.

- Have the responsibility to submit both documentation of their disability and a request for services.
- Have the responsibility to initiate the request for services or accommodations; requests should be addressed to the Registrar; students must communicate to the Registrar the nature of the disability and any necessary and reasonable accommodations to allow them full participation in programs.
- Students must meet the requirements of the academic program of study with or without reasonable accommodation.

Students are encouraged to disclose and submit a special needs request for any disability requiring accommodation immediately following enrollment and prior to starting classes. Once the university's review has been completed and reasonable accommodations have been identified, an appropriate start date can be determined so the student can begin his or her chosen program. All students seeking accommodation under Section 504 of the Rehabilitation Act or the ADA must submit documentation of physical or mental disability from qualified medical or testing personnel. Expenses incurred in obtaining such documentation are the responsibility of the student.

Job Placement Disclaimer

Unmanned Vehicle University does not guarantee job placement, advancement, or continued employment to graduates upon program/course completion or upon graduation. The university provides limited occupational assistance by referring students to Unmannedpower LLC. Unmannedpower LLC is an independent employment agency that focuses matching job seekers with potential employers in the Unmanned Systems job market. While Unmannedpower LLC offers limited employment assistance to graduates, there are no guarantees of employment made to any student by either Unmannedpower LLC or Unmanned Vehicle University LLC. Any arrangements students make with or through Unmanned Power LLC are completely independent of Unmanned Vehicle University.

Unmannedpower, LLC
 P.O. Box 1597
 Savannah, TN 38372
 Tel: 713.212.8658

Leave of Absence Policy

Students requesting a leave of absence (LOA) must notify the university by email or letter:

Unmanned Vehicle University
One Renaissance Tower
2 N. Central Ave
18th and 19th Floors
Phoenix, AZ 85004
Phone: 866-916-8519

From matriculation until graduation, graduate students at Unmanned Vehicle University are expected to maintain active status by continuously enrollment. Students who are not able to maintain active status are strongly encouraged to consult with the Dean of Academic Affairs, and Provost to determine whether requesting a leave of absence (LOA) is the most appropriate course of action. Medical, personal, employment and military service are examples of situations

that may lead a student to explore a leave of absence request. See university policies and guidelines below:

1. Students who experience circumstances that prevent them from maintaining active student status may be granted approval from UVU for a leave of absence upon request. Students must complete a Leave of Absence form that specifies the length of the leave requested.
2. An approved leave of absence may not exceed one academic year, unless there are extremely exceptional circumstances.
3. Students who do not obtain an approved leave of absence prior to interrupting their enrollment (excluding summer) may be terminated from their graduate program and/or held to new requirements if they are subsequently readmitted.
4. Students granted a leave of absence may not use University facilities or services available only to enrolled students.
5. The approved leave of absence time will not be counted toward time-to-degree limits.
6. Students who obtain an approved leave of absence in accordance with this policy are eligible for reinstatement provided they register no later than the term immediately following the expiration of the leave (excluding summer). Programs may specify reasonable conditions for reinstatement to active status, whether the student returns early or at the expiration of the leave. Programs may deny reinstatement to active status based on crimes or other serious misconduct occurring during the leave that would have been grounds for suspension or expulsion had the student engaged in the conduct while enrolled. Students are obligated and agree to disclose such material information. See OSU Student Code of Conduct.
7. Students whose leave of absence has expired and who have not yet registered for the following term (excluding summer) will be placed on inactive status. Students who are placed on inactive status must reapply for readmission.
8. Given the diverse disciplinary and interdisciplinary nature of graduate degree programs, programs may develop additional rules governing leaves of absence, as long as they are consistent with Graduate College and University policies. Changes in such policies will be communicated via email and the university website.

Students that wish to be reenrolled must send a letter to the university requesting reenrollment. The letter must contain the following information:

Full name (please include maiden name)
Student identification number
Current address
Date of birth
Last date of attendance
Requested reenrollment date
Degree Program

The student will also be interviewed to ensure that, after an extensive leave, the student will likely be successful in the program if re-enrolled.

Policy on Probation, Suspension or Expulsion

Those who do not make satisfactory progress will be placed on probation during the succeeding term. During the probation period students must raise their grade average to passing or higher. The student will be suspended if grades are not satisfactory at the end of the probationary period.

Reinstatement to the University

Suspended students will be considered for reinstatement to the university after six months. If the student decides to retake a course, the most recent grade is counted in the GPA. A student is limited to a maximum of three attempts to pass a course (B or above). Withdrawals do count as an attempt.

Policy on Student Records

All student academic and financial records are maintained and filed in a secure and safe manner in perpetuity. Students are allowed to view their records, but the records must not leave the university. Official transcripts will be provided to the student for a fee of \$5.00.

Should the institution cease operation, whether voluntarily or involuntarily, all educational records or legible true copies shall be filed with the Arizona State Board for Private Postsecondary Education within 15 days of ceasing educational operations.

PROGRAM REQUIREMENTS

Determination of Academic Requirements

Students graduate under the program requirements and policies in effect at the term and year of admission to a program. Students who fail to maintain continuous enrollment and are re-admitted to the program, graduate under the program requirements and policies in effect at the time of the new admission date.

Core Courses

The following courses are required for graduation:

Masters of Science in Unmanned (Air, Ground, Sea, Space) Vehicle Systems Engineering Degree

- One introductory course (i.e. UAV Fundamentals or equivalent UGV, UUV, USV course)
- Remote Sensing with Unmanned Systems Course
- One Systems Engineering Course
- One 700 Level Math Course
- Three courses in an unmanned specialty area (air (UAV), ground (UGV), sea (UUV), space (USV))
- Choice of electives

Doctor of Science in Unmanned (Air, Ground, Sea, Space) Vehicle Systems Engineering Degree

- One introductory course (i.e. UAV Fundamentals or equivalent UGV, UUV, USV)
- Remote Sensing with Unmanned Systems Course
- Two Systems Engineering Courses

- One 700 Level Math Course
- RES 771 Research Methods
- Three courses in specialty area (air (UAV), ground (UGV), sea (UUV), space (USV))
- Choice of electives

Masters of Science in Unmanned Vehicle Systems Engineering

Example Masters in Unmanned (Air) Vehicle Systems Engineering Curriculum

UAV 601: Unmanned Aircraft Systems Fundamentals	4 credit hours
MAT 701: Numerical Analysis	4 credit hours
UAV 801: UAV Aerodynamics and Flight Stability	6 credit hours
UXV 803: Autonomous Unmanned Systems	6 credit hours
SYS 601: UAV Systems Engineering and Project Management	4 credit hours
UXV 701: Remote Sensing with Unmanned Systems	4 credit hours
SYS 809: UAV Propulsion Methods and Selection	4 credit hours
UAV 702: UAV Developmental Flight Test and Evaluation	4 credit hours
Total Credit Hours:	36 credit hours

Example Masters in Unmanned (Ground) Vehicle Systems Engineering Curriculum

UGV 602: Unmanned Ground Systems Fundamentals	4 credit hours
MAT 701: Numerical Analysis	4 credit hours
UXV 606: Introduction to Robotics	4 credit hours
UGV 806: Advanced Motion Planning	4 credit hours
SYS 601: UAV Systems Engineering and Project Management	4 credit hours
UXV 701: Remote Sensing with Unmanned Systems	4 credit hours
UGV 707: Autonomous Intelligent Control Systems	4 credit hours
UXV 805: Human Robot Interaction	4 credit hours
UXV 807: Image Processing and Automatic Target Recognition	4 credit hours
Total Credit Hours:	36 credit hours

Master of Science in Unmanned Vehicle Systems Engineering Program Objectives

The main objective of the Master's Degree program is to equip the student with the extensive background required for present day professional unmanned systems engineering practice in industry. The study program is intended to provide the student with more depth and breadth in chosen fields of Unmanned Aircraft Systems Engineering. The curriculum is design, development, integration and management, and operation oriented to enable a graduate of the program to cope with and solve current and future Unmanned Systems Engineering problems.

Doctor of Science in Unmanned Vehicle Systems Engineering

A minimum of 60 semester credit hours of graduate-level coursework and comprehensive examination are required for the doctoral degree. A research proposal and dissertation is also required for the doctoral degree. The doctoral degree program is completed in no fewer than two years from the date of initial enrollment or no more than eight years from the date of initial enrollment.

Document Issued: Doctor of Science in Unmanned Vehicle Systems Engineering

Sample Doctor of Science in Unmanned Aerial Vehicle Systems Engineering Curriculum

UAV 601: Unmanned Aircraft Systems Fundamentals	4 credit hours
MAT 701: Numerical Analysis	4 credit hours
UAV 801: UAV Aerodynamics and Flight Stability	6 credit hours
UXV 803: Autonomous Unmanned Systems	6 credit hours
SYS 601: Systems Engineering & Project Management	4 credit hours
UXV 701: Remote Sensing with Unmanned Systems	4 credit hours
UAV 809: UAV Propulsion Systems	4 credit hours
RES 771: Research Methods	4 credit hours
UAV 805: Human Machine Interface	4 credit hours
MAT 703: Linear Algebra	4 credit hours
SYS 702: Systems Engineering, Architecture and Design	4 credit hours
RES 901-903: Dissertation Research	12 credit hours
Total Credit Hours:	60 credit hours

Program Objectives

The doctoral program is designed to prepare teachers and leaders for industry in the new career field of unmanned systems engineering. The primary component is independent, directed research leading towards a dissertation. The Doctor of Science degree is focused on a single domain of unmanned vehicle (air, ground, sea and space); however, students are encouraged to take other domains to broaden their education. The degree requirements can be completed completely online using our online distance education course management or equivalent. Students must successfully complete 60 semester credit hours to complete this program.

Certificate in Unmanned Vehicle Systems Project Management

The Certificate in Unmanned Vehicle (Aircraft) Systems Project Management is for students who have not earned a bachelor's degree. Students are required to have earned a high school diploma.

Document Issued: Certificate in Unmanned Vehicle Systems Project Management

Program Objectives

The objective of the Certificate program is to provide current and future project managers with an understanding of the technical characteristics of unmanned vehicle systems and the concepts, principles, and issues associated with planning and managing an unmanned systems project in an active, flexible learning environment. The project management course includes preparation for the Certified Associate in Project Management (CAPM) certification by the Project Management Institute (PMI). PMI certification formally recognizes an individual's competency in the project management process and is widely acknowledged as a significant accomplishment by practitioners in the field.

UNIVERSITY ADMINISTRATION

Board of Directors

Mr. Mark Wilkins, Phone: (602) 759-7372, Email: admissions@uxvuniversity.com

Mr. Kevin Kelly, Phone: (602) 759-7372, Email: admissions@uxvuniversity.com

University Management and Administration

Mr. Kevin Kelly, President, Phone: (602) 759-7372, Email: admissions@uxvuniversity.com

Mr. John L. Minor, Provost, Phone: (602) 759-7372, Email: john.minor@uxvuniversity.com

Dr. Crissie M. Jameson, Dean – Academic Affairs and Research Programs, Phone: (602) 759-7372, Email: cjameson@uxvuniversity.com

Mr Paul Dragos, Dean – School of Flight Training, Phone: (602) 759-7372, Email: PDragos@uxvuniversity.com

Mr. Josh Roetzer, Enrollment Advisor and Business Development Manager, Phone: (716), 866-2827 or (602) 759-7372, Email: JRoetzer@uxvuniversity.com

UNIVERSITY FACULTY & INSTRUCTORS

Dr. Robert Finkelstein

Adjunct Faculty, President of Robotic Technology Inc.

Dr. Finkelstein has more than 40 years of experience in: intelligent systems and robotic vehicles; military and civil systems analysis; operations research; business development; technology assessment and forecasting. Dr. Finkelstein earned a Doctorate in the primary field of Systems Theory and Cybernetics and the supporting field of the Management of Science, Technology, and Innovation, the George Washington University (GWU, 1995); Ap.Sci. (Applied Scientist degree) in Operations Research (GWU, 1977); M.S. in Operations Research (GWU, 1974); M.S. in Physics (University of Massachusetts, 1966); B.A. in Physics (Temple University, 1964). Also: Diplomas from the U.S. Army Missile School (1967) and U.S. Army Ordnance School (1966); Certificates from the University of Tennessee Space Institute (Combat Obscuration Modeling, 1978) and University of California, Los Angeles (Battlefield Robotics, 1983), and post-graduate courses in Physics at MIT (1968-1970). As President of Robotic Technology Inc. (RTI) from 1985 to the present, Dr. Finkelstein is responsible for technical analyses, technology assessments and

forecasts, operations research, business development, and other professional services, for government and industry – nationally and internationally – in military and civil advanced technology systems, especially robotics, unmanned vehicles, and intelligent systems. Dr. Finkelstein is the inventor (patent pending) of the Energetically Autonomous Tactical Robot (EATR), which was developed under sponsorship of the Defense Advanced Research Projects Agency (DARPA). He is Collegiate Professor for the University of Maryland University College, Graduate School of Management and Technology, and he received the 2010 UMUC Teaching Recognition Award. He is also Co-Director of the Intelligent Systems Laboratory in the Center for Technology and Systems Management in the University Of Maryland Clark School Of Engineering. Previously he served as a U.S. Army Ordnance Officer in Missile Intelligence. Dr. Finkelstein has authored more than 200 technical reports and studies. He contributed articles to numerous publications and wrote a quarterly column and served on the Editorial Board for “Unmanned Systems” and Board of Directors for the Association for Unmanned Vehicle Systems International. His books include Unmanned Vehicle Systems: Military and Civil Robots for the 21st Century and Beyond, Pasha Publications (1994), Defense Year-Book 1992 (“Combat Robotics: From the Kaiser to the New World Order”), Brassey’s Publications, and “Military and Civil Robotics: Intelligent Machines in War and Peace,” IGI Global Publishers (to be published in 2012). We welcome Dr Finkelstein as our expert in robotics and systems engineering. Dr Finkelstein teaches the UGV 707 Autonomous Intelligent Control Systems.

Dr. Pascual Marqués

Adjunct Faculty, President of Marques Aviation Ltd (UK)

Dr. Marqués holds an MPhil and a PhD in Engineering Mechanics. He is the President at Marques Aviation Ltd in the United Kingdom and the International Director (UK) of Unmanned Vehicle University. At Marques Aviation Ltd, Dr Marqués oversees the design, R&D, manufacture of the MA THOR unmanned aircraft series. The research interests of Dr Marqués are in the fields of Aerodynamics at low Reynolds numbers and Flight Stability and he has published extensively in these areas. Recent projects involve the implementation of theoretical aerodynamics for the design of low aspect ratio wings for applications in UAV engineering using numerical analysis, computer aided engineering (CAE) and computational fluid dynamics (CFD). Wing aerodynamic efficiency in UAVs is optimized by adjustment of wing planform to enhance Oswald efficiency, incorporation of flow control devices, modification of tip vortex and wake configuration, and application of optimized geometric and/or aerodynamic twist. Flight stability of the air vehicle is enhanced using principles of aeroelasticity, adaptive wing technology and automated flight control. Dr Marqués is the Editor in Chief of the International Journal of Unmanned Systems Engineering (IJUSEng). He is the Chair of the World Congress on Unmanned Systems Engineering (WUEng) and the

International Aerospace Engineering Conference (IAEC). Dr. Marqués regularly presents the latest research in aerodynamic optimization at other international congresses; the most recent include the Australian International Aerospace Congress (Melbourne, Australia), the Pan American Congress on Applied Mechanics (Port-of-Spain, Trinidad & Tobago), and the Maui International Engineering Education Conference (Maui, Hawaii, USA).

Elena Spiridon, PhD

Adjunct Faculty, Psychology, Man-Machine Interface Expert

Ms. Spiridon regularly teaches Psychology, Psycho-physiology and Research Methods at Liverpool John Moores University, Edge Hill University and Hugh Baird College in the United Kingdom. Completion of her PhD in Psychology at Liverpool John Moores University is imminent. Elena was awarded her BSc (Hons) in Psychology (Grade: First Class) by the University of Lancashire, for which she was also granted the GBR British Psychological Society Award for the student with the highest average mark. Elena's research interests are in the field of Psycho-physiology and Human-machine interaction and she has participated in World-class research projects. In particular, her PhD research at Liverpool John Moores University is funded by the European Commission within the 7th Framework Programme (FP7) as part of the REFLECT project. The overall aim of the doctoral research program is to develop a prototype biocybernetic system that accurately measures affective-motivational states via Psycho-physiology and provides feedback to the user in real-time. The work focuses on identifying cardiovascular and electroencephalography-based indicators of anger, in combination with levels of control, towards the development of a cybernetic loop that offers the possibility to self-regulate negative valence Psycho-physiological reactions. Elena has published her work extensively in leading Psycho-physiology, Biological Psychology, Affective Computing, and Intelligent Interaction journals. Another area of research interest is the application of Psycho-physiology and concepts of Human-machine interaction in the development of the UAV ground control station. Elena is also the Director of Marketing at Marques Aviation Ltd and participates in the R&D and promotional programs of the MA THOR unmanned aircraft series. Elena is a member of the Conference Scientific Committee for the World Congress on Unmanned Systems Engineering (WUEng) and the International Aerospace Engineering Conference (IAEC). She teaches the UXV 805 Human-Machine Interaction course at Unmanned Vehicle University.

John Sauter

Adjunct Faculty, Program Manager, Soar Technology Inc. Autonomous Systems Expert

Mr. Sauter is a Program Manager for Autonomous Systems at Soar Technology, Inc. where he leads research and development efforts in robotics and unmanned systems. He has over 30 years of experience in research and development in automation and autonomous systems. This group has established an international reputation for its pioneering work in stigmergic algorithms using fine-grained agent-based systems for unmanned systems. John has over 25 years' experience in research and development using fine-grained agent-based methods for modeling and control of complex systems ranging from swarming air vehicle control to distributed information analytics for massive data. He has led Jacob's research in swarming unmanned vehicle control over the last thirteen years. John served as project manager and principal investigator on a number of defense studies and demonstrations of advanced unmanned systems. He managed the DARPA JFACC program to develop an adaptive air planning application in complex, dynamic threat environments. He led the OSD NII study to evaluate Jacob's novel stigmergic swarming algorithms in several full scale simulation experiments run by the Space and Missile Defense Battle Lab. He led the team that successfully demonstrated the use of swarming algorithms controlling multiple ground and air vehicles in several tests held at Aberdeen Proving Grounds in 2004 and later at NASA's Wallops Island in 2007 and 2009. He has also led projects in studying the effectiveness of swarming unmanned systems for several military applications including persistent surveillance, target tracking, fast boat surveillance, and perimeter protection. He is the author of over 25 papers and holds three patents using agent-based technologies for the analysis and control of a wide range of systems. Mr Sauter teaches the UXV 803 Unmanned Systems Autonomy Course

Dr. Emaid A. Abdul Retha

Adjunct Faculty, UAV Propulsion Expert

Dr. Emaid A. Abdul-Retha holds the BS, MS and PhD degrees in aeronautical engineering. His research areas include jet engine automatic control systems and modeling of gas turbine engines. He has over 34 years of aviation experience including 20 years' experience with unmanned aircraft vehicles. He has been a chief engineer for ten years working on modifications to the MiG-21 and MiG 29 jet fighter aircraft. Dr. Abdul-Retha has supervised several research centers and projects related to aviation and unmanned aircraft. He has performed research on many different types of aircraft (fighter, transport, helicopter, agriculture, light, general aviation. etc.). He led a development effort to modify the MIG 29 jet fighter with drop fuel tanks and an inflight refueling system. His research efforts have also led to an increase in helicopter engine power in hot climates. He has also conducted research in air defense operations and fighter tactics against attacking missiles and UAV's. His research related to unmanned aerial vehicles includes the design, manufacture, integration and testing of many different types (fixed wing UAV, VTOL UAV, jet powered UAV). He has also has led research activities in unmanned ground vehicles (UGVs) and

unmanned surface vehicles (USVs). In 2003 he was a research fellow for UAV automatic control systems at the National Aerospace University in Kharkov, Ukraine. He returned to the university in 2007 as an advisor to the small unmanned aircraft vehicle research program. From 2008 to 2010 he provided consulting services for the King Abdullah Design and Development Bureau (KADDB) in Jordan where he managed a VTOL UAV research program. He is presently the R&D director at Jordan Aerospace industries (JAI) and has established a comprehensive UAV program in Jordan. He is a member of the board of directors at Jordan Advance Remote Systems (JARS), a company that specializes in UAV's. Dr Abdul-Retha teaches the UAV propulsion Methods and Selection Course.

Fred Bivetto, Lt Col, USAF (Ret)

Adjunct Faculty Member, UAV Test Pilot / UAV Flight Test Expert

Lt Col (Ret) Frederick C. Bivetto was the Director of Curriculum Standards and Chief Remotely Piloted Aircraft (RPA) training at the USAF Test Pilot School, Edwards AFB. Mr Bivetto holds a BS in Mechanical Engineering and a Master's Degree in National Security. He was responsible for the development and maintenance of a \$37M, 1200 hour, Master of Science accredited flight test curricula with over 23 years of engineering, aviation and project management experience. In addition to managing the pilot, navigator/combat systems officer and flight test engineer curricula; he was initial cadre for the development of the experimental Unmanned Aerial Vehicle (UAV)/Remotely Piloted Aircraft (RPA) test pilot curriculum and the school's first Chief UAV/RPA test pilot.

He began his Air Force career as an airborne Mission Commander and aeronautical engineer on the EC-135E / EC-18B Advanced Range Instrumentation Aircraft (ARIA). He led numerous missions to worldwide remote locations for Navy Trident ballistic missile re-entry tests, cruise missile chases and space launches (from DIRECTV to the SPACE SHUTTLE). He then went off to specialized & joint undergraduate navigator training, earning an academic excellence award and the wings of a weapon systems officer (WSO) and electronic warfare officer (EWO) flying the B-1. During his operational career he was a bomb squadron Chief of Standardization/Evaluation, Flight Commander and Top Graduate of the B-1 Centralized Flight Instructor Course. He is a multiple combat veteran of Iraq's OPERATION DESERT FOX and Afghanistan's OPERATION ENDURING FREEDOM with 240 combat flight hours. While deployed for OPERATION ENDURING FREEDOM he was selected for the prestigious USAF TPS special flying program and graduated with the Ellison A. Onizuka "Propwash" Award.

During his flight test career he was an Instructor Experimental Flight Test B-1 WSO/EWO, Airborne Laser (YAL-1A) Flight Commander, Joint Unmanned Combat Air System (J-UCAS/X-45) & Global Hawk (RQ-4A/B) Assistant Director of Operations, Operations Officer of a Presidentially-directed unit, Predator (MQ-1) & Reaper (MQ-9) Detachment Commander, Nellis Test and Training Range Squadron Commander and Operations Group Deputy Commander (Experimental Flight Test F-16 WSO & other systems).

He has accumulated an impressive and diverse series of firsts for the Air Force: first B-1 combat mission (OPERATION DESERT FOX), led first B-1 mission for night one of OPERATION ENDURING FREEDOM, first B-1 launch of the Joint Standoff Weapon (JSOW), Laser Weapon Officer for first integrated Airborne Laser systems test, first dual-qualified UAV/RPA test pilot (Global Hawk and Predator), flew first Navy Global Hawk cross-country and the first Predator Viper Strike munition test sortie.

Lt Colonel Bivetto is a master aviator, UAV/RPA test pilot & commercial, single/multi-engine, instrument pilot and CFI with over 2,500 flight hours in 30 different aircraft.

Dr. Robert Jacobs

Adjunct Faculty, Systems Engineering Expert, CEO of Illusion Engineering Inc.

Dr. Robert S. Jacobs holds a BS in Systems Engineering from UCLA, an MS in Management Science/Operations Research from USC, and a Ph.D. in Engineering Psychology/Human Factors from the University of Illinois. His graduate research at the University of Illinois Aviation Research Laboratory addressed the role of simulator motion cues on transfer effectiveness in primary flight training. He has over 35 years of experience in aerospace and defense engineering, including technical, program, and executive management positions with Hughes Aircraft, Illusion Engineering, The Institute for Defense Analyses, and Perceptronics Solutions Inc. He has consulted extensively with various government agency and aerospace industry clients, including an extended relationship with Aerovironment Inc. His professional work has focused on system engineering support of man-machine system development, including human machine interface design, simulation for engineering development and training, and artificial intelligence for crew system decision aiding and automation.

Dr. Jacobs was a principal stakeholder in the development of the first large-scale distributed military simulation system – DARPA's SIMNET program – during which he oversaw the design, production, fielding, and operations of 236 networked full crew combat simulators installed at 13 US Army training sites around the world. As founder and CEO of Illusion Engineering Inc., Dr.

Jacobs managed the development of a number of very sophisticated simulation systems for military and entertainment application, including networks of Indy, NASCAR, and parachute jumping simulators installed at high-end recreational facilities worldwide. With the Institute for Defense Analyses, he was a principal architect of the US Army's Future Combat System embedded simulation capability that provided virtual combat training integral to all of the manned combat platforms in that system of systems. Dr. Jacobs has been responsible for design and system engineering of UAV ground control stations, command and control protocol, and UAV payload integration, and has managed numerous studies to incorporate artificial intelligence and intelligent agent technology into UAS ground control stations to enable single operators to provide supervisory control of multiple unmanned platforms. He is an experienced commercial pilot and former certified flight instructor with over 1500 hours of multi-engine, instrument, and glider flight time, and over 2500 hours of simulator instruction logged. Dr Jacobs teaches the SYS 601 UAV Systems Engineering and Project Management Course.

Paul Dragos

Dean of School of Flight Training

Paul Dragos, Dean of the School of Flight Training at Unmanned Vehicle University attended the University of California, San Diego and graduated in 1983 with a Bachelor of Science Degree in Telecommunications.

In 1984, was accepted in to the United States Navy's "Aviation Officer Candidate" Program and commissioned as an Ensign later that year.

In 1986 he earned in Navy Pilot Wings and completed three Western Pacific Tours (WESTPACS) aboard the Aircraft Carriers USS Saratoga (CV-60) and USS Carl Vinson (CVN-70). These included operations over Iraq during OPERATION DESERT STORM (1991).

In 1997, Paul served on a final WESTPAC cruise as Assistant Air-Boss of the USS Peleliu (LHA-5). After this, he served two years in the United States Naval Reserve and participated in the RQ-1 Predator Drone Testing at Naval Air Station San Clemente Island.

Throughout his distinguished career, Paul has amassed over 2,500 flight hours in a variety of military aircraft, including Jets and helicopters. In the process of doing so, he has earned several decorations, including the Navy Achievement Medal, the Armed-Forces Expeditionary Medal, the National Defense Medal, and several Service Ribbons.

After leaving the Military, Paul continued his civilian career in the telecommunications and aviation industries. He has a Private Pilot's License with a commercial rating and is active in the Unmanned Aerial Drone industry.

John Minor

Provost of UVU, Expert in UAV Systems, UAS Flight Test and UAS Remote Sensing

Mr. John Minor is the Provost of Unmanned Vehicle University (UVU). As one of the founding members of the University, He previously served on the UVU Board of Directors and as a UVU Regional Director for the Mountain West Region.

As Provost, he is responsible for all aspects of the academic mission to include academic curricula and personnel, unmanned flight training/instruction, and unmanned systems research programs. He collaborates with UVU owners to ensure the mission, vision, and goals of the university are met. Mr. Minor oversees the departmental efforts of the University's three Deans: Dean of the School of Unmanned Systems Technology, Dean of the School of Flight Training, and Dean of Research Programs and Academic Affairs. Prior to becoming Provost for Unmanned Vehicle University, Mr. Minor owned and operated American Eagle Aerospace LLC and was the Division Chief for the Air Force Sustainment Center's Scientist and Engineer Strategic Workforce Management and Development Division, Ogden Air Logistics Center, Engineering Directorate, Hill Air Force Base, Utah. Prior to that, he served as the Chief of the Systems Engineering Division for Hill AFB.

Mr. Minor has 40+ years of professional experience and retired from the US Department of the Air Force after serving 28 years in both military and civilian capacities. He is an internationally recognized subject matter expert on airborne remote sensing, airborne sensors and systems, unmanned aerial vehicles (UAVs) and UAV systems, systems engineering, and flight test and evaluation. He is a highly decorated academic leader, instructor and lecturer. He is the former Technical Director of the USAF Test Pilot School. In this capacity he was responsible for executing a 50 semester hour graduate level program graduating 48 student test pilots and test engineers a year with a Master of Science in Flight Test Engineering as well as overseeing a 4000 hour annual test flying training program. From 2006 to 2008 he led the efforts to get the USAF Test Pilot School academically recognized, accredited and approved by the US Department of Education, the National Advisory Committee on Institutional Quality and Integrity (NACIQI) and the Southern Association of Colleges and Schools for degree granting authority under USC Title 10, a first in the 63 year history of the military school.

During his career, Minor served on the technical staff of the Air Force Flight Test Center, the USAF Test Pilot School, the 46th Test Wing, Lockheed Martin, the Lockheed Skunk Works®, Loral, and Sverdrup Technology. He began his career with the 9th Strategic Reconnaissance Wing as a sensor system specialist on the SR-71 and U-2 aircraft. Since, he has worked on a number of high-value military programs to include the Low Altitude Navigation and Targeting

Infrared for Night (LANTIRN), the F/A-18D (RC) Tactical Reconnaissance (TAC RECCE), the Advanced Tactical Air Reconnaissance System (ATARS), and the RQ-3A TIER III Minus (DarkStar) High Altitude, Low Observable, Endurance, Unmanned Air Vehicle (UAV), as well as numerous other classified manned and unmanned system programs.

Mr. Minor is a senior flight test engineer and he accumulated over 1500 flying hours in over 30 different aircraft types, including 400+ hours in the RF-4C and 300+ hours in the F-16B/D. As a USAF Test Pilot School's former Systems Master Instructor (1999-2003), he was responsible for developing a state of the art curricula and teaching sensors, weapons, systems, electronic warfare, directed energy, and unmanned systems theory, operations, and flight test to the next generation of USAF Test Pilots, Electronic Warfare Officers, and Flight Test Engineers. He has taught many short courses around the world for Society of Flight Test Engineers, the Association of Old Crows (AOC), Technology Training Corporation, and has lectured extensively throughout Europe to several Technical Universities and for the Royal Aeronautical Society (RAeS). Mr. Minor holds BSEE and MSEE degrees "with distinction" from the University of New Mexico under Air Force Institute of Technology sponsorship. He is an Air War College and USAF Test Pilot School graduate.

Mr. Minor has been honored with numerous awards and decorations to include: the Civilian Meritorious Service Medal, the 412th Test Wing's Senior Leader of the Year Award, the Society of Flight Test Engineers Directors and Fellow Awards, the San Fernando Valley Engineers' Council Distinguished Engineering Project Achievement Award, and the Engineers' Council Distinguished Engineering Life Achievement Award for his educational contributions to the Edwards AFB engineering community. In 2010 he was honored to receive the "Kelly" Johnson Award for obtaining "Engineering Excellence" throughout his 35-year career by the Society of Flight Test Engineers. John received the Team Hill AFB "Spirit Award" in 2011, and in 2014 he was honored to be selected as the IEEE Senior Engineering Manager of the Year for Region 6, Utah and Idaho.

Mr Minor is a member of the following professional organizations: the Association for Unmanned Vehicle Systems International (AUVSI), Fellow of the Society of Flight Test Engineers, (SFTE), Senior Member of the Institute of Electrical and Electronic Engineers (IEEE) , the International Test and Evaluation Association (ITEA) , Senior Member of the American Institute for Aeronautics and Astronautics (AIAA), the International Council on Systems Engineering (INCOSE), the Air Force Association (AFA), and the Flight Test Historical Foundation. He was the President of the Society of Flight Test Engineers from 2004-2006. Mr. Minor also has been inducted to the following science and engineering honor societies: Eta Kappa Nu – The Electrical and Computer Engineering Honor Society, Tau Beta Pi – The Engineering Honor Society, and Kappa Mu Epsilon – the Mathematics Honor Society.

Dr. Crissie M. Jameson

Faculty Member, Dean of Academic Affairs and Research, Subject Matter Expert in Higher Education, Research, and Accreditation

Dr. Crissie M. Jameson has worked in higher education for over 10 years. Dr. Jameson is a former K-12 teacher, teaching all grade levels from preschool to high school and is now a full time faculty member at a large, online institution. Dr. Jameson has worked in institutional research, strategic planning and accreditation in higher education for over nine years and was a founding Director of the Institutional Assessment office at a small, private university. As the Director, she was the only institutional research employee and conducted all research and assessment responsibilities for the institution. As an Association for Institutional Research/National Center for Educational Statistics postdoctoral fellow in 2009, she conducted a study concerning features of campus data systems and reporting to IPEDS. Dr. Jameson most recently served as the Director of Academic Quality at a large, online institution.

Dr. Jameson has been a part of accreditation re-affirmation committees for several universities including accreditation for WASC (Western Associate of Schools and Colleges), SACS (Southern Association of Colleges and Schools) and HLC (Higher Learning Commission). She has lead and developed academic and co-curricular review processes for universities. Dr. Jameson has also lead satisfaction surveys and programmatic specialized accreditations at the university level.

Dr. Jameson received her PhD from Florida State University in 2008 in Educational Psychology with minors in Statistics and Program Evaluation. Dr. Jameson has taught in higher education for over 10 years at the undergraduate and graduate levels. She has been a part of numerous research projects both with a group and on her own in all research method types (quantitative, qualitative, mixed methods) and has published numerous peer-reviewed articles and presented at numerous national conferences. She has taught research methods, and quantitative analysis and has served on dissertation committees. She also currently serves on an international university Institutional Review Board committee.

Mr. Eric Jameson

Adjunct Faculty, UAV Design and Build Expert, UAV Product Manager at Stampede Global

Mr. Eric Jameson is an adjunct faculty member for Unmanned Vehicle University. He was a career Intelligence Officer with the United States Air Force (USAF) and has over 25 years of experience with the USAF serving in numerous combat zones from the Tactical to the Operational level. He has worked with all combat related platforms in the USAF inventory, manned and unmanned.

Mr. Jameson started his career as a Target Intelligence Specialist with a reserve F-16 unit, where he was awarded numerous Outstanding Performer awards and deployed to contingencies supporting OPERATION DESERT STORM, OPERATION DENY FLIGHT, OPERATION DECISIVE EDGE,

and OPERATION NORTHERN WATCH working with a variety of USAF aircraft. As an Air Reserve Technician, he was selected as the Air Force's Outstanding Intelligence Intermediate-Level Civilian of the Year. Mr. Jameson graduated with a B.A. in Political Science from the University of Texas at Arlington. He was then selected for commissioning in the Air Force to serve as a Squadron Intelligence Officer before becoming the Wing Intelligence Officer for an F-16 unit and finally heading up operations in the Air Operations Center – Intelligence, Surveillance and Reconnaissance (ISR) Division.

After retiring, Mr. Jameson utilized his recognized subject matter expertise in ISR and UAV's on several contracts to include building the entire fundamentals courseware for the Saudi Arabian Alternate Command Operations Center (ACOC) and working with the Joint Improvised Explosive Device (IED) Defeat Organization (JIEDDO). As a Senior Intelligence Analyst, he deployed to Afghanistan for 6 months in support of OPERATION ENDURING FREEDOM where his analytical efforts were directly responsible for over 3,000lbs of home-made-explosives (HME) being taken off the battlefield.

Mr. Jameson is a graduate of the Air Education and Training Command's Instructor School in addition to the following specialty courses; Intelligence Systems Training, Tactical Electronic Combat Intelligence, Combat Survival Training, Practical Intelligence, Air Defense Electronic Warfare, Wild Stallion Combat Search and Rescue, Anti-Terrorism, Squadron Officers School, MQ-1/9 Intelligence Formal Training, and the Air Force Air Operations Center – Intelligence Division training. Mr. Jameson is the author of the original Concept of Operations which created the Non-Traditional Intelligence Surveillance and Reconnaissance (NT-ISR) mission set used by the USAF. He also built the Tactical to Operational Level Architecture for Mission Reporting and Weapons System Video used in OPERATION IRAQI FREEDOM for which he received the Defense Meritorious Service Award.

COURSE DESCRIPTIONS

Unmanned Vehicle Systems

UAV 301/601 Unmanned Aircraft Systems Fundamentals (4 credits)

This course provides a comprehensive technical overview of unmanned aircraft systems. The following topics are covered in this course: UAV Components, UAV Communications & Data Links, UAV Sensors & Characteristics, UAV Ground Control Systems, Civil UAV Types, Roles and Operations, Civil Airspace Integration, Sense and Avoid Systems, UAV Mishaps, Causes of Failure, Improving Reliability, Human Machine Interface, UAV Alternative Propulsion (Fuel Cells and Solar), UAV Navigation, UAV Autonomous Operations, UAV

Swarming, Future UAV Roles & Technologies. The 301 course covers the same material as UAV-601, but the level of student understanding, the homework, and the exams are significantly less demanding than in UAV-601. UAV 301 is intended for certificate program Students. UAV 601 is intended for graduate program students.

Prerequisites: Algebra

UAV 302/602 Civil and Commercial Unmanned Aircraft Systems (4 credits)

This course, *Civil and Commercial Unmanned Aircraft Systems* introduces students to the uses of civil and commercial Unmanned Aircraft Systems (UAS), sometimes called domestic drones. We are currently experiencing revolutionary changes in aviation due to the rapid implementation of UAS. New paths to airspace access are opening up in the United States and around the world. UAS operations are surging, creating jobs, new benefits, and new challenges for society. Civil missions are performed by civilian government, also known as the public sector. Civil customers may include law enforcement, first responders, public universities, and scientific researchers, among others. Commercial missions are performed by the private sector or individuals. While not strictly commercial, this course also covers personal and recreational UAS. The 302 course covers the same material as UAV-602, but the level of student understanding, the homework, and the exams are significantly less demanding than those in UAV-602. UAV 302 is intended for certificate program students. UAV 602 is intended for graduate program students.

Prerequisites: UAV 301/601

UAV 303 Small UAV Design and Construction (4 credits)

This vocational technical course will provide the student with the knowledge to build and fly their own UAV. Topics covered include Definitions and Types, Small UAV Sensors, Small UAV Design, Small UAV Propulsion, Small UAV Energy Systems, Small UAV Regulation, Small UAV Operations, Starting a UAV Business. Course material will help students make the best decision possible in purchasing small UAVs. The content will also help graduates be effective as a pilot, sensor operator, maintenance technician, mission commanders, observers, supervisor, purchasing agent, decision makers, and more. The participants will gain a thorough working knowledge of small UAVs and sensors including operational capabilities of the most common systems available today, and the technology behind them.

Prerequisites: Algebra

UAV 604 UAV Laws, Regulations and Intellectual Property (4 credits)

This course will survey the rapidly evolving field of the law governing the use of Unmanned Aircraft Systems ("UAS") in the national airspace ("NAS"). The course will proceed based on six "modules" addressing various aspects of the new field of UAS Law. These modules are: (1) Emerging FAA Regulatory Framework; (2) Government Use of UAS and the Fourth Amendment; (3) State Regulation of Government and Commercial UAS; (4) Tort Liability for UAS Operations; (5) Emerging Frameworks for UAS and Privacy; and (6) Overview of

Intellectual Property Issues for the UAS Industry. Upon successful completion of the course, the student will have a working knowledge of the legal issues relevant to the UAS industry

Prerequisites: None

UGV 601 Unmanned Ground Vehicle (UGV) Fundamentals (4 credits)

GM, BMW and Cadillac have all announced production of driverless cars; these cars can drive and navigate without human input. The vehicles use radar, Lidar, GPS and computer vision to sense their surroundings. Three states have passed laws permitting driverless cars: Nevada, Florida, and California. This course covers the design of driverless cars/Unmanned Ground Vehicles. Topics covered include: Types, UGV Sensors, UGV Communications and Data Links, Example of a Small UGV Design, UGV Power and Propulsion Design, Design for Reliability and Safety, Outdoor Navigation, Driverless Cars, Sensor Processing, UGV Lifecycle and Design Management, Advanced Reliability Design, Future of Driverless Cars/UGVs.

Prerequisites: Algebra

UGV 602 Autonomous Intelligent Control for Unmanned Ground Vehicles (UGVs)

This is a 12-week comprehensive introductory course on autonomous intelligent control systems and the engineering of mind. Autonomous intelligent control systems provide the architecture for the mind of autonomous robotic vehicles and other intelligent machines, including unmanned air, ground, and sea vehicles. We examine the nature of intelligence, organic and machine, and discuss the basic architectures for achieving machine intelligence. We focus on a reference model architecture developed over several decades by the Intelligent Systems Division of the National Institute of Standards and Technology (NIST) in which the U.S. government has invested more than \$350 million.

Prerequisites: UAV 601 or UGV 601

UXV 609 Introduction to Robotics (4 credits)

This course introduces the basics of robot design, planning and control. Topics include linear control theory, coordinate transformations, kinematics, dynamics, nonlinear control, trajectory planning, force control, sensors and actuators, filtering, optimal control and adaptive control.

Prerequisites: College Algebra

UXV 401/701 Remote Sensing with Unmanned Systems (4 credits)

This course covers visible, infrared and radar sensors used by unmanned aircraft systems. Lectures include the theoretical background necessary to understand remote sensing applications in the optical and radio frequency portions of the electromagnetic spectrum, to include the effects of dynamic atmospheric conditions, target scene content and clutter. Sensor design and theory of operation is presented in the context of accomplishing specific missions for representative civil and commercial applications. Numerous example images and videos are used to illustrate system operation and performance and to facilitate student learning. Additionally, multi- and hyper- spectral imaging and light detection and ranging (LIDAR) sensors are illustrated and capabilities examined. Representative unmanned system sensor applications covered include target detection/acquisition/tracking, ranging, surveillance, reconnaissance, ground mapping, navigation, environmental monitoring, wildfire suppression, disaster and emergency management, agricultural monitoring, law enforcement, homeland security (airport, border, and port) and communications. The main difference between 401 and 701 is the level of homework, examinations, and understanding required of the students. UXV-401 is intended for certificate program students. UXV-701 is for graduate students only.

Prerequisites: Algebra, Geometry and Trigonometry

UAV 402/702 Unmanned Aircraft Developmental Flight Test and Evaluation (4/6 credits)

This course covers the test and evaluation of unmanned aircraft systems (UASs). Test and evaluation of an UAS is just as much an essential part of the UAS design and development process as it is for a manned aircraft. However, the complexity and various levels of autonomy in the modern UAS present unique challenges to the system developer and tester that are seldom encountered in manned aircraft development, test and evaluation programs. This course provides students with a thorough understanding of the entire test and evaluation process as it applies throughout the developmental life cycle of the UAS, culminating with the capstone event—the flight test program. Course topics cover the major elements of test and evaluation process, including the use of modeling and simulation, system integration laboratories, hardware-in-the-loop (HITL) testing and simulation, installed system test facilities, and open air test ranges. The methods and challenges associated with flight testing remotely piloted and autonomous UASs are examined. Test planning, provisioning, and design are covered to include critical performance parameter identification and data collection strategies. Testing in all flight regimes of the UAS mission are covered to include launch and recovery, in-flight vehicle performance, stability, and control, sensor payload performance, communication and data link performance, ground station controls and displays, and human factors. Important test considerations such as design for reliability, robustness, and redundancy are examined. The critical importance of test safety is emphasized to include risk management, identification of risks, and risk mitigation. UAV 402 is for non-degree program students. UAV 702 is for students enrolled in the Masters or Doctorate program.

Prerequisites: Algebra

UAV 604 UAV Laws & Regulations (4 credits)

This course will survey the rapidly evolving field of the law governing the use of Unmanned Aircraft Systems (“UAS”) in the national airspace (“NAS”). The course will proceed based on six “modules” addressing various aspects of the new field of UAS Law. These modules are: (1) Emerging FAA Regulatory Framework; (2) Government Use of UAS and the Fourth Amendment; (3) State Regulation of Government and Commercial UAS; (4) Tort Liability for UAS Operations; (5) Emerging Frameworks for UAS and Privacy; and (6) Overview of

Intellectual Property Issues for the UAS Industry. Upon successful completion of the course, the student will have a working knowledge of the legal issues relevant to the UAS industry.

Prerequisites: None

UAV 801 UAV Aerodynamics and Flight Stability (6 credits)

This course addresses fundamental principles of aerodynamics and flight stability for applications in unmanned aircraft vehicle (UAV) design. It requires a basic knowledge of mathematics and numerical modeling and is intended as a first course that provides a sound foundation for more advanced courses in aerodynamics modeling and computational fluid dynamics (CFD). Topics include: Fundamental aerodynamics theory, thin-airfoil theory, lifting-line theory, finite-wing theory, vortex-panel method, airfoils suitable for UAVs, airfoil geometry, surface velocity, pressure distribution, boundary layer thickness distribution, airfoil operation in off-design conditions, Influence of Reynolds number, high-lift configurations in UAVs, boundary layer stability, flow control, rotor blade aerodynamics, methodology of CFD, and UAV flight stability.

Prerequisites: Calculus

UXV 803 Unmanned Systems Autonomy (6 credits)

This course provides a comprehensive background in autonomous control of unmanned systems. It describes the different levels of control in autonomous systems and, drawing from multiple examples, defines generic control architecture. The basic elements of control theory and feedback control are covered including PID, fuzzy logic, and artificial neural networks and are applied to the design of simple robotic controller. Each of the key elements in autonomous systems is reviewed. Starting with sensing, we work through higher levels of information processing such as feature extraction, detection, recognition, and identification. The special problem of geo-location and mapping is discussed. We describe how this information can be represented in a world model including uncertainty and probabilistic descriptions of state. Mechanisms for reasoning, planning, and optimization in decision making are described. Basic coordination schemes are discussed such as group decision making, task allocation, scheduling, and formation control. Human interfaces and adjustable levels of autonomy, and issues related to establishing trust in autonomous systems are discussed. The course concludes with an overview of swarming systems and biological mechanisms for collaborative control of multiple systems. Design patterns for swarm control are discussed and a sample system developed. Case studies of swarm control are studied and their effectiveness evaluated.

Prerequisites: UAV 601 or UGV 601 and Calculus or passing of a math placement exam

UXV 805 Human Robot Interaction (4 credits)

Numerous unmanned aircraft system accidents have been attributed to the design of the ground control station interface between the human and the machine. This course focuses on the emerging field of human-robot interaction (HRI) which comprises a multitude of disciplines including: robotics, artificial intelligence, human factors, human computer interaction and cognitive psychology. Topics include: Good practices when designing HRI systems, interaction and architectures, programming languages, metrics, social robotics, emotions, frameworks and relations between perception, actuation and HRI. The main goal is to improve the interaction between a human and machine.

Prerequisites: Algebra

UAV 808 UAV Structural Analysis (4 credits)

This course will provide the graduate student with an introduction to Aircraft Structural Analysis. The course provides the student with the basic tools of structural analysis. The use of energy methods of analysis is explained. Emphasis is placed on the methods of complementary and potential energy. The role and limitations of each method of analysis are explored. The analysis of aircraft structures covers analysis of the thin-walled, cellular type of structure peculiar to aircraft, discussions of structural materials, fabrication and function of structural components, introduction to structural idealization, modifications necessary to account for axial constraint effects, computational methods of structural analysis, modern finite element method for continuum structures, and airworthiness and aeroelasticity.

Prerequisite: MAT 704 or equivalent Calculus course

UAV 809 UAV Propulsion Systems, Methods and Selection (4 credits)

This course lectures related to fundamental principles of Unmanned Aerial Vehicle (UAV) propulsion design. It is intended as a first course that provides in-depth understanding of state-of-the-art propulsion issues for UAVs, including propulsion options, cycle analysis, and principles of operation, systems, components, and performance and efficiency calculations. Also the Theories of aero-engines and their related background in aerodynamics, thermodynamics and stress analysis are presented. System as well as component engineering aspects of engine aero-thermo-mechanical design is examined. Unmanned Aircraft Systems alternative power will be discussed.

Prerequisites: College Algebra or passing of a math placement exam

UXV 999 Special Topics (4 credits)

Student will work with their instructor to define requirements, scheduling and work for a special topic in unmanned vehicle systems engineering or a closely related and relevant topic.

Systems Engineering and Project Management

MOD 471 Modeling & Simulation (4 credits)

This course is designed to develop ability to model and analyze real systems using discrete event simulation. Simulation is a powerful tool. Mastering such a tool is a valuable asset in the workplace and in academic research. During this course, one should expect to gain experience in: Formulating an appropriate simulation model for a system; implementing the model as a computer program and evaluating the output of the model.

Pre-requisites: Algebra

SYS 471 Systems Engineering II (4 credits)

This course covers the architecture and design of large-scale and decentralized systems from technical and management perspectives. Systems architectures, requirements analysis, design tradeoffs, and reliability through case studies and mathematical techniques. International standardization bodies, engineering frameworks, processes, notations, and tool support from both theoretical and practical perspectives are covered in detail.

Pre-requisites: Algebra

SYS 401 Introduction to Systems Engineering (4 credits)

This 12-week 'instructor-led' online course introduces fundamental principles of the systems engineering process and techniques. It covers the role of system engineering in the system life cycle from pre-concept exploration through concept development, design, production, utilization, operations support, and retirement. It is identical to the SYS 601 course except for assignments and demonstrated level of learning designed at the vocational-technical level. It addresses technical and project processes with which the system engineer is involved, enabling and support process activities, and specialty engineering activities. Tailoring of the system engineering function to suit the scope and needs of the project will be discussed. Finally, the course reviews management processes and techniques with which system engineer will be involved as part of the program management activity.

Prerequisites: Algebra and UAV 601

SYS 601 Introduction to Systems Engineering (4 credits)

This graduate course introduces the principles and methods of Modern Systems Engineering. Lectures include needs identification, requirements formulation, concept generation and selection, trade studies, preliminary and detailed design, component and subsystem test and integration as well as functional testing and delivery and operations. The concepts for tradeoffs between cost, performance and schedule are also discussed. The material serves as a baseline for advanced unmanned systems engineering courses.

Prerequisites: Algebra

SYS 701 Project Management of Complex Systems (4 credits)

This project-based course exposes students to tools and methodologies useful for the effective management of UAV projects. This course presents the tools and techniques for project definition, work breakdown, estimating, resource planning, critical path development, scheduling, project monitoring and control, and scope management. These tools will be presented within the context of a life cycle and a systems approach. Students will be exposed to advanced project management software. The basics of the Earned Value Management System (EVMS) will be covered. The project management course includes preparation for the Certified Associate in Project Management (CAPM) certification by the Project Management Institute (PMI). PMI certification formally recognizes an individual's competency in project management process and is widely acknowledged as a significant accomplishment by practitioners in the field.

Prerequisites: SYS 601

SYS 702 System Conceptual Design (4 credits)

This course explains the details of the conceptual design phase of an unmanned aircraft system development program. The course provides comprehensive coverage of all elements of unmanned aircraft systems, architectural options, and design drivers across diverse system classes. The end-to-end unmanned aircraft system is described, rather than just the aircraft. Each week of study highlights the system element interactions that impact top-level system performance. For example, the interactions between sensor resolution, acoustic detection, and unmanned aircraft (UA) sizing are detailed. The reader will gain a deep appreciation for the multidisciplinary nature of unmanned aircraft system design. She/ he will be able to conduct cross-discipline trade studies to yield robust, well-balanced systems that provide superior operational utility. This text provides detailed analysis of system elements unique to unmanned aircraft. By combining all of these disciplines in one work, this should serve as a single resource for unmanned systems analysis. Many important system element analysis methods are either not published, not covered in sufficient depth elsewhere, or exist in single-discipline books.

Prerequisites: SYS 601

SYS 706 Risk Analysis and Management (6 credits)

The course is concerned with techniques used in the identification, assessment and control of uncertainties in a project-based enterprise. Uncertainty is inherent in all projects and operations and particularly in the aspects of technical, financial, schedule, legal and quality (the latter includes safety, health, environment and facility integrity) performance. Techniques used in risk mitigation are studied. Risk Analysis and Management is a body of expertise focused on the systematic and comprehensive analysis of the uncertainty in projects and project based operations.

Prerequisites: SYS 601

Electrical/Electronics Technology and Engineering

ELE 551 Electrical Engineering Principles for non-Electrical Engineers (4 credits)

This course will present a general overview of the electrical engineering discipline with the intent of applying the knowledge to UAV systems. It is a course designed for non-electrical engineering majors and will provide unmanned systems students with sufficient knowledge of electrical systems and electronics to make them better unmanned systems engineers and managers.

Prerequisites: Algebra

ELE-601: Electrical Engineering Principles and Applications (4 credits)

This course covers the material in a typical undergraduate electrical engineering course of study. Topics include basic circuit analysis, digital systems, electronic devices and circuits, and electromechanics. It provides the systems engineer with an ability to apply knowledge of mathematics, science, and engineering to identify, formulate, and solve problems of an electrical/electronic nature. The course also helps prepare systems engineers to function on interdisciplinary teams and gives them an ability to communicate effectively with electrical engineers.

Prerequisites: The fundamental prerequisites for this course are basic college-level physics and single-variable calculus. A prior course in differential equations would be helpful for transient analysis, but is not essential.

Mathematics / Science

MAT 401 Fundamental Engineering Mathematics (4 credits)

This 12-week 'instructor led' online course introduces and consolidates basic mathematical principles and promotes awareness of mathematical concepts for students needing a broad base for further engineering courses. The course is taught online using course management software. This course will provide the graduate student with an introduction to fundamental mathematical principles for applications in engineering. Engineering mathematics is a branch of applied mathematics concerning mathematical methods and techniques that are typically used in engineering and industry. Engineering mathematics is an interdisciplinary subject motivated by the systems engineers' needs both for practical and theoretical considerations, and to deal with constraints to be effective in their work. This course would be an ideal mathematics refresher course for students who have been away from the classroom for many years. It also helps to prepare students for some of the more advanced graduate mathematics courses

Prerequisites: Algebra

MAT 701 Numerical Analysis (4 credits)

This course will emphasize the development of numerical algorithms to provide solutions to common problems formulated in science and engineering. The primary objective of the course is to develop the basic understanding of the construction of numerical algorithms, and perhaps more importantly, the applicability and limits of their appropriate use. The emphasis of the course will be the thorough study of numerical algorithms to understand (1) the guaranteed accuracy that various methods provide, (2) the efficiency and scalability for large scale systems and (3) issues of stability. Topics include the standard algorithms for numerical computation including root finding for nonlinear equations, interpolation and approximation of functions by simpler computational building blocks (for example - polynomials and splines), numerical differentiation and divided differences, numerical quadrature and integration.

Prerequisites: College Algebra or passing of math placement exam

MAT 702 Applied Differential Equations (4 credits)

The construction of mathematical models to address real-world problems has been one of the most important aspects of each of the branches of science. It is often the case that these mathematical models are formulated in terms of equations involving functions as well as their derivatives. Such equations are called differential equations. If only one independent variable is involved, often time, the equations are called ordinary differential equations. The course will demonstrate the usefulness of ordinary differential equations for modeling physical and other phenomena. Complementary mathematical approaches for their solution will be presented, including analytical methods, graphical analysis and numerical techniques. The basic content of the course includes first order equations, mathematical models, linear equations of second order, the Laplace transform, linear systems of arbitrary order and matrices, nonlinear systems, phase plane analysis and numerical methods.

Prerequisites: Calculus

MAT 703 Linear Algebra (4 Credits)

This course is an introduction to the concepts and methods of linear algebra. Among the most important topics are general vector spaces and their subspaces, linear independence, spanning and basis sets, solution space for systems of linear equations, linear transformations, and their matrix representations, and their inner products. The course is designed to develop an appreciation for the process of mathematical abstraction and the creation of a mathematical theory. Practical paper projects are also included.

Prerequisites: College Algebra or passing of math placement exam

MAT 704 Calculus (4 credits)

This 12-week 'instructor led' online course provides an introduction to fundamental calculus. This course will provide the graduate student with an introduction to Calculus. Calculus was first invented to meet the mathematical needs of scientists of the sixteenth and seventeenth centuries, needs that were mainly mechanical in nature. Nowadays it is a tool used almost everywhere in modern engineering to describe change and motion. Calculus also provides important tools in understanding functions and has led to the development of new areas of mathematics including real and complex analysis, topology, and non-euclidean geometry. This course is a prerequisite to other graduate courses in the Masters and Doctorate of Unmanned Vehicle Systems Engineering Programs of Study.

Prerequisites: College Algebra or passing of math placement exam

RES 771 Research Methods (4 credits)

Systems engineering as a technical discipline needs both qualitative and quantitative tools and research methods to understand customer requirements, explore design options, design robust and optimized systems, and validate designs in the intended environments. This class is an introduction to the quantitative and semi-quantitative toolset and research methods that are primarily concerned with generating and managing information. This course is required for all DSc Program students.

Research Credits

RES 901, 902, 903 Doctor of Science Dissertation Research (4 credits each)

Students will work with an instructor to identify a topic, perform research and produce a Doctor of Science Dissertation in a specialized area of study. An instructor who is a subject matter area expert will guide the student through topic selection, problem identification, literature search, problem solution, dissertation structure and content. At the end of the program students will be required to give a 20 to 40 minute presentation of their research to the examining committee. Dissertations are judged by whether or not an original and unique contribution is made to scholarship in the unmanned vehicle systems body of knowledge.

Description of Facilities

Unmanned Vehicle University is located in downtown Phoenix at 2 N. Central Ave., 18th and 19th floors, Phoenix, AZ 85004. The facilities include classrooms, offices, a conference room and a break room. There is approximately 13,000 sq. ft. of space that can be contracted for use. UVU also has an auxiliary operating location with classroom, lab, and office space at the Presson Goodyear Airport, 1300 South Litchfield Road, Building 14, Goodyear, Arizona. UVU also has additional office, classroom, and laboratory space in downtown Phoenix, AZ.

2018 Calendar

January 1	New Year's Day
January 2	Term 1 - Start
January 15	Martin Luther King Day
February 19	Presidents' Day
March 25	Term 1 - End
April 2	Term 2 - Start
May 28	Memorial Day
June 24	Term 2 - End
July 2	Term 3 - Start
July 4	Independence Day
September 3	Labor Day
September 23	Term 3 - End
October 1	Term 4 - Start

October 8	Columbus Day
November 11	Veterans Day
November 22	Thanksgiving Day
December 23	Term 4 - End
December 25	Christmas Day

2019 Calendar

January 1	New Year's Day
January 2	Term 1 - Start
January 14	Martin Luther King Day
February 18	Presidents' Day
March 24	Term 1 - End
April 1	Term 2 - Start
May 28	Memorial Day
June 23	Term 2 - End
July 1	Term 3 - Start
July 4	Independence Day
September 2	Labor Day
September 22	Term 3 - End
September 30	Term 4 - Start
October 7	Columbus Day
November 11	Veterans Day
November 28	Thanksgiving Day
December 22	Term 4 - End
December 25	Christmas Day

Student Catalog

Catalogs are made available to students and prospective students in written or electronic format. Within 10 days from the date of a catalog revision, the revised catalog will be submitted to the Arizona State Board for Private Post Secondary Education.

Academic Advisement

Students may call 602-759-7372 to schedule an appointment for academic advisement.

Veterans Assistance

The Provost, two Deans and several faculty members are Veterans, and providing a cost effective education for our veterans is very important to UVU management. Although Unmanned Vehicle University is not currently approved for VA Tuition Assistance/Funding, we offer all Veterans a 50% off tuition to military veteran's with an approved DD214. The Veterans Affairs Office at Unmanned Vehicle University is primarily responsible for assisting veterans and answering their questions. The VA Office provides resource information to students. We encourage veterans attending UVU to contact our office in person or by phone with any questions they may have pertaining to their education. Call (602) 759-7372 or email admissions@uxvuniversity.com for assistance.

Space, Facilities and Equipment

All UVU academic courses are taught online via modern distance learning methods and technologies. There is no residency requirement for the certificate or graduate degree programs. On-site classes and/or seminars are currently conducted in a conference room at One Renaissance Tower, 2 N. Central Ave, 18th and 19th Floors, Phoenix, AZ 85004. A large conference room with seating for 20 students is the main area for teaching the courses. A second conference room with seating for 6 is also available. Numerous separate offices can also be used for teaching small groups. A large break room with kitchen amenities and a student lounge with TV are available. UVU also has an auxiliary operating location with classroom, lab, and office space at the Presson Goodyear Airport, 1300 South Litchfield Road, Building 14, Goodyear, Arizona. UVU also has additional office, classroom, and laboratory space in downtown Phoenix, AZ.

Certified as True and Correct in Content and Policy

University Officials Signature/Title

Effective Date

Appendix A: Student Enrollment Agreement

STUDENT ENROLLMENT AGREEMENT R4-39-401(A)(1)

Unmanned Vehicle University, One Renaissance Tower, 2 N. Central Ave, 18th and 19th Floors, Phoenix, AZ 85004. Email this completed agreement to admissions@uxvuniversity.com Phone: 866-916-8519

Student Name: _____ Maiden or other names used: _____

Student ID #: _____

Address: _____

City, State, ZIP: _____

Phone Number: _____ Email _____

Date of Birth: _____

Gender: _____ (M or F)

Hispanic: Yes ___ No ___

Ethnicity (one or more of the following): _____ American Indian or Alaska Native _____ Asian _____ Black or African American _____ Native Hawaiian or Other Pacific Islander _____ White _____ Other (Describe)

US Citizen: _____ Yes _____ No

Highest Degree Earned (e.g., Bachelor's, Master's, etc.) _____

PROGRAM INFORMATION

Anticipated Commencement date of program _____

Program title (Certificate, Master's, Doctorate) _____

Total semester credit hours of the program _____

TUITION

The total cost for the Doctor of Science Degree in Unmanned Systems Engineering program:

Tuition:	\$24,000 (over 3 years)
Books/Supplies	approx. \$1200 (but may be less depending on text required for course)
Application Fee	\$25
Total Program Costs	\$25,225

Initials _____

The total cost for the Masters Degree in Unmanned Systems Engineering program:

Tuition:	\$14,400 (over 2 years)
Books/Supplies	approx. \$900 (depending on courses taken)
Application Fee	\$25
Total Program Costs	\$15,325

The total cost for the Certificate in Unmanned Systems Project Management program:

Tuition:	\$6,400 (over 1 year)
Books/Supplies	\$1,400 (program requires a drone to be designed and built)
Application Fee	\$25
Total Program Costs	\$7,825

Discounts

UVU offers 50% off tuition to military veteran's with an approved DD214.

PAYMENT METHOD AND TERMS OF PAYMENT (Payment to comply with R4-39-405)

1. \$25 application fee
2. Each course is \$400 per credit hour paid at the beginning of each course.
3. Payment methods accepted include cash, check, credit card and bank transfer

CANCELLATION AND REFUND POLICY (To comply with R4-39-404)

An applicant denied admission by the school is entitled to a refund of all monies paid.

Refund after the commencement of course:

If for any reason a student chooses to withdraw from a program, the university has established this refund policy for the student's protection. A student may terminate an enrollment at any time by notifying the university in any manner (in writing is required).

Address: One Renaissance Tower, Two N. Central Avenue, 18th and 19th
Floors, Phoenix, AZ 85004
Telephone: 866-916-8519
Email: admissions@uxvuniversity.com
Website: www.uxvuniversity.com

Initials _____

If Unmanned Vehicle University is notified of cancellation within five (5) calendar days after midnight of the day on which the enrollment agreement is accepted, an applicant requesting cancellation in writing within this time will be given a refund of all money paid to the Unmanned Vehicle University.

The following chart reflects the refund percentage per the amount of the term (12 week course) which has been in session at the time the student requests a refund (less the non-refundable application fee):

12 Week Course	
% of the weeks enrolled	Tuition refund amount
10% or less	90%
More than 10% and less than or equal to 20%	80%
More than 20% and less than or equal to 30%	70%
More than 30% and less than or equal to 40%	60%
More than 40% and less than or equal to 50%	50%
More than 50%	No refund is required

Books, supplies and fees are not refundable if received by student and opened.

Refunds will be issued within 30 days of the date of student notification, or date of school determination (withdrawn due to absences or other criteria as specified in the school catalog), or in the case of a student not returning from an authorized Leave of Absence (LOA), within 30 days of the date the student was scheduled to return from the LOA and did not return.

Holder in Due Course Statement:

Any holder of this consumer credit contract is subject to all claims and defenses which the debtor could assert against the seller of goods or services obtained pursuant hereto or with the proceeds, hereof Recovery hereunder by the debtor shall not exceed amounts paid by the debtor (FTC Rule effective 5-14-76).

Perspective UVU students must send official transcripts from previous colleges/universities in which they wish to transfer credit to admissions@uxvuniversity.com. Transfer credits will be reviewed by the admissions personnel and a determination will be sent to the student via email within 4 weeks.

THE STUDENT UNDERSTANDS:

1. The School does not accept credit for previous work experience (experimental learning), or CLEP.
2. The School does not guarantee job placement to graduates upon program/course completion or upon graduation.
3. The School reserves the right to reschedule the program start date when the number of students scheduled is too small.
4. The School will not be responsible for any statement of policy or procedure that does not appear in the School catalog.
5. The School reserves the right to discontinue the student's training for unsatisfactory progress, nonpayment of tuition or failure to abide by School rules
6. This document does not constitute a binding agreement until accepted in writing by all parties.

STUDENT ACKNOWLEDGEMENTS:

1. I hereby acknowledge receipt of the School's catalog dated _____, which contains information describing programs offered, and equipment/supplies provided. The School's catalog is included as a part of this enrollment agreement, and I acknowledge that I have received a copy of this catalog. _____ Student initials
2. Also, I have carefully read and received an exact copy of this enrollment agreement. _____ Student initials
3. I understand that the School may terminate my enrollment if I fail to comply with attendance, academic and financial requirement or if I disrupt the normal activities of the School. While enrolled in the School. I understand that I must maintain Satisfactory Academic Progress as described in the School catalog and that my financial obligation to the School must be paid in full before a certificate may be awarded. _____ Student initials
4. I also understand that this institution does not guarantee job placement to graduates upon program/course completion or upon graduation.

UVU does not discriminate in its admissions because of race, sex, color, creed, age, religion, or national origin of admitting students.

CONTRACT ACCEPTANCE:

I, the undersigned, have read and understand this agreement and acknowledge receipt of a copy. It is further understood and agreed that this agreement supersedes all prior or contemporaneous verbal or written agreements and may not be modified without the written agreement of the student and the School Official. I also understand that if I default upon this agreement I will be responsible for payment of any collection fees or attorney fees incurred by Unmanned Vehicle University.

My signature below signifies that I have read and understand all aspects of this agreement and do recognize my legal responsibilities in regard to this contract.

This contract terminates four years after signed and date indicated below:

Signed this _____ day of _____ 20_____

Signature of Student

Date

Signature of School Official

Date