



UNIVERSITY OF THE AEGEAN
Department of Shipping
Trade and Transport

University of the Aegean

Department of Shipping Trade and Transport

Laboratory of Informatics and New Technologies
in Shipping Transport and Insular Development



UxV's

Unmanned Vehicles

UGV – UAV – USV – UUV - USpV

Systems Design and Management

*Innovative **new** online and practical course*



UNIVERSITY OF THE AEGEAN
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Supporting Entities



Altus Lsa



Hellenic Naval
Academy



UOA/MythPelSat Team



Satways Ltd



Lambdasat Team

Start Date: **March 2017**



Scope

The main objective of this new Course is to educate students and professionals on how to deal with the design and management of Unmanned Systems Design in Land, Air, Space and Sea environment. The Course covers theoretical and practical applications / techniques for the design of systems utilized in maritime security, sea commerce and sea transportation as well as in other field areas.

Students will examine / test case studies in the following thematic areas:

Unmanned Type	Name	Categories to be presented
Aerial Vehicle	UAV	Fixed Wing, Heli - Quadrocopter, Drone
Ground	UGV	Ground Robot
Microsatellite	USpV	Picosatellite, Cubesat
Surface Vehicle	USV	Rhib, Boat
Submersible Vehicle	USuV	Mini Submarine

All the above mentioned Unmanned Vehicles are currently operational and active in various types of Border and Maritime Security applications, operations. Unmanned systems will be presented and analyzed by globally distinguished professionals in the area of Unmanned Vehicles.

Participants will have the capability to literally test and evaluate the use of all or selected vehicles in practical scenarios as well as examine the use of theory into reality.

Moreover, legal aspects in accordance with current EU and national are going to be analyzed in order to set up the current framework in the use of such systems into commercial or governmental operations.

Academic Objectives

The coursework is tailored for individuals wishing to get professional and finally occupy themselves or work in the area of unmanned vehicles (UxV environment) accumulating experience from systems design through management. Also, it is intended for those already working in international or domestic companies / organizations dealing with such applications. Moreover, course academic perspective is to provide participants with solid experience on how to apply unmanned vehicles concept into new working environment areas aiming to minimize the cost in trade market and increase at the same time quality of services.

Successful completion of the **12 Modules** (March to July 2017) leads to the award of a **Certificate** issued by **University of the Aegean**, Laboratory of Informatics and New Technologies. Training will be supported on the demonstration and practical sides from **Altus Lsa** (www.altus-lsa.com) a global forerunner provider in UAV technologies.

Cooperation

The coursework is delivered by experts, professionals and academia from the Engineering and Management field, from distinguished National and abroad Universities (e.g. US NPS Monterey, UxV University, Hellenic Naval Academy, Panteion University) as well as sound global field companies (e.g. Altus LSA, Satways Ltd).



Examples can be found in the following links:

• ALTUS LSA	http://www.altus-lsa.com/ UAVs – USVs
• US NPS Monterey	http://cenetix.nps.edu/cenetix/ UGVs
• Satways Ltd	http://www.satways.net/ Information Gathering
• UxV University	www.uxvuniversity.com
• San Jose State – Silicon Valley	www.sjsu.edu UAVs Systems Engineering
• Panteion University	Legal Regimes – International & Domestic Law
• Lambdasat Team	www.lambdasat.com Microsatellites – CubeSats
• Interorbital:	www.interorbital.com Microsatellites – TubeSats

Program Details

Students will attend Course modules through an e-Learning platform. Each module runs one or twice a week and includes:

- 2 - 6 hours of presentations;
- 4 to 6 hours of study via learning material available in the e-Learning platform;

Delivery of the presentations will be conducted during the afternoon / evening hours, allowing working professionals to participate and attend. Moreover, all are able to attend the course through synchronous or asynchronous methods (real-time or via recorded presentations / uploaded course material).

Modules

BASIC	
1.	Unmanned Vehicles Engineering Fundamentals
2.	UxV's Technology and Applications
3.	Introduction to UAV Flight Mechanics
4.	Project Management in UxV Design
INTERMEDIATE	
5.	Computational Tools for UxVs
6.	Transportation, Commerce - UxV applications
7.	Legal Regime of UAVs – International and Domestic Law
8.	Reverse Engineering and Root Cause Analysis
ADVANCED	
9.	USpV - Microsatellite – Cubesat Design
10.	UAVs Systems Engineering
11.	UAV Flight Test and Evaluation Procedures
12.	UAV Security Operations (Real Case Studies – Lessons Learned)
FLIGHT TRAINING - CERTIFICATE	
13.	UAV Flight Test and Evaluation (Practice)
14.	UAV Flight Training (Fixed Wing & Helo)
15.	UxV training (UAVs & Cubesats)



Certification / Diploma

Upon successful completion of the course students will be awarded a **Certificate / Diploma of Training** from the **University of the Aegean** supported by **Altus Lsa** (practical Drone training). Validated ECTS points gained through this course can be used in a Master's level studies in the University of the Aegean or elsewhere, in the same or closely related discipline area.

An accompanying transcript detailing the content and taught hours of all Modules covered in the Course will be issued to the students.

Important Note:

Students will have the ability to pursue **Flight Certificate / Diplomas at the end of their study from Hellenic Civil Aviation Authority (YPA) if requested.
(HCAA UAS Category Operator's License)**

Course Language:

English and/or Greek

Course Matrix:

Level	Cost	Modules	Duration	Award
Basic	120 €	1 through 4	1 month	Diploma
Intermediate	310 €	1 through 8 + 1 Guest Lecture	3 months	Diploma
Advanced	520 €	1 through 12 All Guest Lectures	5 months	Diploma Certification
UAV Flight Training	650 €	Real Practice in Flying Drones (Fixed Wing & Helo)	3 days	UAV Master Certification
UxV Training	820 €	Real Practice in UxVs	3 days	UxV Master Certification
Discounts				
<i>Group Registration</i>		<i>20 % off (3 persons and more)</i>		
<i>Students - Unemployed</i>		<i>20 % off</i>		
<i>* Discounts are effective only through advanced level participation</i>				
<i>* Each level cost includes all previous levels attendance</i>				

Registration / Start Date:

Registration will be conducted from **20th Jan to 15th Mar 2017**

The program is scheduled to start **end of Mar 2017**.

Contact – Applications

University of the Aegean

Department of Shipping Trade and Transport

Laboratory of Informatics and New Technologies in Shipping Transport and Insular Development

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UxV Photo Gallery



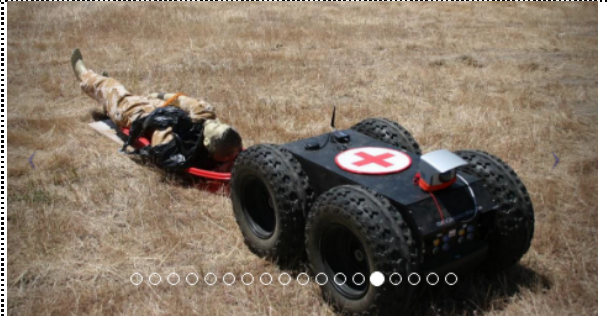
Fixed Wing UAV ready to be launched for participation in Maritime Security Operation
(courtesy ALTUS Lsa) <http://www.altus-lsa.com/>



Fixed Wing UAV during pre launch set up
(courtesy ALTUS Lsa) <http://www.altus-lsa.com/>



Fire Jet Aerial Target flight campaign at NAMFI Crete
(courtesy ALTUS Lsa) <http://www.altus-lsa.com/>



UGV in search and rescue action
(courtesy US NPS Monterey – Cenetix Lab) www.cenetix.nps.edu

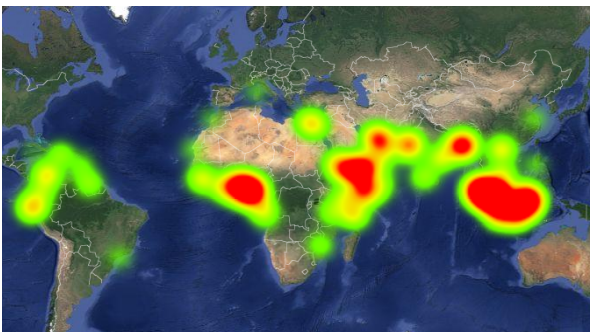


Mini UAV helicopter during operational mission
(courtesy Hellenic Naval Academy) www.hna.gr

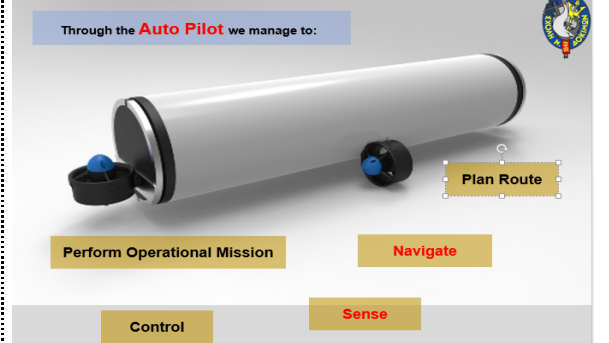


USpV - Lintaba at USpV ready to launch Aug 2014
(courtesy Lintaba Team) www.lintaba.com

USpV - L



Common Risk Operational Picture collected through UxVs
(courtesy maritimerisk) www.maritimerisk.gr



Mini UUV Submarine
(courtesy Hellenic Naval Academy) www.hna.gr