

Program Outcomes Assessment

BS in Unmanned Systems

**Created on: 12/18/2014 09:14:00 AM CST
Last Modified: 01/13/2015 02:36:13 PM CST**



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General Information (Program Outcomes Assessment)

Standing Requirements

Mission Statement

The Unmanned Systems program is to produce graduates that have mastered a combination of educational and operational practiced experience that will that will prepare students for the operational environment of Unmanned Systems. The UMS program will provide the skills relating to the unmanned systems area. Focusing on education, training, practical application, research development, theoretical and practical operations of unmanned systems. Working in the classroom to operating vehicles in the field, students will receive hands on experience with varying types of vehicles including air, land, and maritime.

Outcomes Library

BS in Unmanned Systems Outcome Set

1. Know the primary unmanned systems components

Objective 1: Students will demonstrate knowledge of primary unmanned systems components to include the vehicle, sensors, ground control station (GCS), data links, and personnel.

| Outcome | Mapping |
|---|------------|
| 1.1 Understand each major system component Students will demonstrate an understanding of each major system component of the unmanned system | No Mapping |
| 1.2 Demonstrate creative thinking and originality Students will demonstrate creative thinking and originality through presentation of a variety of real world simulations and concepts | No Mapping |

2. Analyze unmanned systems

Objective 2: Students will perform analyses related to design, construction, and maintenance of unmanned systems.

| Outcome | Mapping |
|--|------------|
| 2.1 Create, design, and construct an unmanned system Students will create, design, and construct an unmanned system | No Mapping |
| 2.2 Apply correct navigational systems to individual vehicles Students will identify and apply correct navigational systems to individual vehicles | No Mapping |
| 2.3 Identify proper vehicle category/design and power supply Students will identify proper vehicle category/design and power supply for given applications. | No Mapping |

3. Utilize instruments, methods, software, and techniques to produce a simulated mission

Students will utilize instruments, methods, software, and techniques to produce an effective simulated operational mission



requiring the use of all components of the system.

| Outcome | Mapping |
|---|---|
| 3.1 Produce Federal Aviation Administration documents Students will produce competent Federal Aviation Administration documents including coordination process, Notice to Airmen (NOTAMs), and specifications appropriate to airspace scope to write a Certificate of Authority (COA). | Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing. |
| 3.2 Deliver presentations concerning briefing/debriefing Students will deliver effective presentations concerning complete flight mission briefing/debriefing. | Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing. |
| 3.3 Build a mission profile using the Corsair simulator and software Students will build a mission profile of a man-made or natural disaster utilizing the Corsair simulator and software. | No Mapping |
| 3.4 Identify correct sensor for applications Students will identify correct sensor for appropriate applications to include hierarchies, scale, and content. | No Mapping |

4. Employ a knowledge of flight safety operations

Students will demonstrate and employ a working knowledge of flight safety operations in the use of unmanned systems.

| Outcome | Mapping |
|--|---|
| 4.1 Apply the principles of flight safety Students will effectively apply the elements and principles of flight safety | No Mapping |
| 4.2 Apply the principles of vehicle design to ground safety procedures Students will effectively apply the elements and principles of vehicle design to ground safety procedures. | No Mapping |
| 4.3 Demonstrate knowledge of flight weather rules and regulations Students will demonstrate working knowledge of flight weather rules and regulations | No Mapping |
| 4.4 Use communication skills to manage crew resources Students will use communication skills to perform effective crew resource management skills. | Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing. |
| 4.5 Apply solid ground/air safety procedures Students will apply solid ground/air safety procedures to unmanned systems missions. | No Mapping |

5. Apply methods and techniques in determining application process

Students will apply and demonstrate fundamental methods and elementary techniques in determining appropriate application process in data analysis.

| Outcome | Mapping |
|---|--|
| 5.1 Analyze data and solve problems Students will analyze data and solve problems using various sensors. | Foundational Studies: IIIa. Quantitative Literacy |
| 5.2 Use analysis to interpret data Students will determine proper application using fundamental analysis as it relates to data interpretation. | Foundational Studies: IIIa. Quantitative Literacy |

6. Understand regulations and rules

Students will understand regulations and rules as they apply to unmanned systems and component uses.

| Outcome | Mapping |
|---|------------|
| 6.1 Know the rules and regulations of the FAA Students will demonstrate knowledge of the rules and regulations of the Federal Aviation Administration (FAA). | No Mapping |
| 6.2 Understand privacy issues/concerns Students will demonstrate basic understanding of privacy issue/concerns with the use of unmanned systems. | No Mapping |
| 6.3 Demonstrate knowledge of FCC regarding radio frequencies Students will demonstrate a basic knowledge of Federal Communication Commission (FCC) regarding radio frequencies. | No Mapping |
| 6.4 Demonstrate how Certificate of Authorization system is applied to Unmanned Aerial Systems Students will demonstrate how Certificate of Authorization system is applied to Unmanned Aerial Systems. | No Mapping |


7. Demonstrate system solution and integration

Students will demonstrate system solution & integration.

| Outcome | Mapping |
|--|------------|
| 7.1 Use sensor integration appropriately Students will apply appropriate use of sensor integration | No Mapping |
| 7.2 Apply standards and accessibility to communication data links Students will apply appropriate standards and accessibility to communication data links. | No Mapping |
| 7.3 Explain why some use of sensors in data gathering may be unethical Students will explain why some use of sensors in data gathering may be unethical. | No Mapping |
| 7.4 Build mission profile demonstrating proficiency Students will build complete mission profile demonstrating proficiency in all phases of an operational mission. | No Mapping |

Curriculum Map

Active Curriculum Maps

-  **BS in Unmanned Systems** (See appendix)
Alignment Set: BS in Unmanned Systems Outcome Set
Created: 01/13/2015 12:20:11 pm CST
Last Modified: 01/13/2015 1:09:48 pm CST

Communication of Outcomes

Once approved, the department of Aviation Technology will develop a program website to disseminate all pertinent information regarding assessment objectives and outcomes measurement.

Archive (This area is to be used for archiving pre-TaskStream assessment data and for current documents.)


 **Archive**

2015-2016 Assessment Cycle

 **Assessment Plan**

 **Assessment Findings**

 **Action Plan**

 **Status Report**

2016-2017 Assessment Cycle

 **Assessment Plan**

 **Assessment Findings**

2017-2018 Assessment Cycle

 **Assessment Plan**

 **Assessment Findings**

2018-2019 Assessment Cycle

 **Assessment Plan**

 **Assessment Findings**

2019-2020 Assessment Cycle

 **Assessment Plan**

 **Assessment Findings**

Appendix

A. **BS in Unmanned Systems** (Curriculum Map)
