

# Student Learning Outcomes Library

Office of Assessment & Accreditation

Indiana State University

BS Unmanned Systems

Spring 2020

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Outcome	Related Foundational Studies or Graduate Goal
Know the primary unmanned systems components—Students will demonstrate knowledge of primary unmanned systems components to include the vehicle, sensors, ground control station (GCS), data links, and personnel	
1.1 Understand each major system component	
1.2 Demonstrate creative thinking and originality	
Analyze unmanned systems—Students will perform analyses related to design, construction, and maintenance of unmanned systems	
2.1 Create, design, and construct an unmanned system	
2.2 Identify and apply correct navigational systems to individual vehicles	
2.3 Identify proper vehicle category/design and power supply for given applications	
Utilize instruments, methods, software, and techniques to produce an effective simulated mission requiring the use of all components of the system	
3.1 Produce Federal Aviation Administration documents: Students will produce competent Federal Aviation Administration documents including coordination process, Notice to Airmen (NOTAMs), and specifications	Foundational Studies 10: Express themselves effectively, professionally, and

appropriate to airspace scope to write a Certificate of Authority (COA)	persuasively both orally and in writing.
3.2 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 manmade or natural disaster utilizing the Corsair simulator and software	
3.4 Identify correct sensor for appropriate applications to include hierarchies, scale, and content	
Employ a knowledge of flight safety operations in the use of unmanned systems	
4.1 Effectively apply the elements and principles of flight safety	
4.2 Effectively apply the elements and principles of vehicle design to ground safety procedures	
4.3 Demonstrate knowledge of flight weather rules and regulations	
4.4 Use communication skills to manage crew resources	Foundational Studies 10: Express themselves effectively, professionally, and persuasively both orally and in writing.
4.5 Apply solid ground/air safety procedures to unmanned systems missions	
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	
5.1 Analyze data and solve problems using various sensors	Foundational Studies IIIa: Quantitative Literacy
5.2 Use fundamental analysis to interpret data	Foundational Studies IIIa: Quantitative Literacy
Understand regulations and rules as they apply to unmanned systems and component uses	
6.1 Know the rules and regulations of the Federal Aviation Administration (FAA)	

6.2 Understand privacy issues/concerns with the use of unmanned systems	
6.3 Demonstrate knowledge of Federal Communication Commission (FCC) regarding radio frequencies	
6.4 Demonstrate how Certificate of Authorization system is applied to Unmanned Aerial Systems	
Demonstrate system solution and integrations	
7.1 Use sensor integration appropriately	
7.2 Apply appropriate standards and accessibility to communication data links	
7.3 Explain why some use of sensors in data gathering may be unethical	
7.4 Build complete mission profile demonstrating proficiency in all phases of an operational mission	