

COURSE OUTCOME MATRIX

COURSE SYLLABUS

PART 2 of 3

Course Number and Title	IT138 Mission Flight Training
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Credit Hours	3
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Course Description	This course is a live flight course where most of the time will be focused on mission planning and data collection. The course will review sensor mounting and use cases for different sensors while actively using them to collect actionable data with a small unmanned aerial system. Sensors used, and mission types will touch on industries such as GIS and surveying, telecom, petrochemical, power generation and distribution, and agriculture.
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Prerequisite(s) and/or Corequisite(s)	IT137
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Required Textbooks/References/Course Materials:
None.

	General Education Outcomes
1	Utilize written and verbal language to discuss and comprehend information, incorporating a variety of technologies, such as text, data, and images (written language, verbal language, and information technology).
2	Identify and interpret relevant information in order to formulate an opinion or conclusion (critical thinking).
3	Demonstrate and communicate computational methods and mathematical reasoning in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate) (quantitative literacy and fluency).
4	Communicate in appropriate ways with those who are culturally diverse (intercultural competence).

	Program/Department Outcomes
1	Discuss and evaluate potential technology related ethical dilemmas and apply decision-making techniques to resolve them.
2	Demonstrate proficiency in selecting, implementing, and operating information technology solutions to meet project requirements.
3	Apply essential IT support skills in order to install, configure, secure, and troubleshoot operating systems, programs, networks, and pc hardware.
4	Prepared to take and pass industry standard certification exams.
5	Develop the ability to use oral and written communication effectively with clients and other industry professionals.
6	Engage in teams to develop and/or implement IT-based project solutions.
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	Course Outcomes (CO)	Bloom's Domain for CO (C, A, P), Category, and Level	Program/Department Outcome(s)	Written Language	Verbal Language	Information Technology	Critical Thinking	Quantitative Literacy and Fluency	Intercultural Competence
1	Setup a ground control station and prepare a preflight checklist	Cognitive Creating (6)	1,2,3,5,6	2	2	2	2	1	0
2	Identify and select different sensors based on mission type	Cognitive Evaluating (5)	2,3	2	2	2	2	1	0
3	Scope out an area prior to a mission and list the possible hazards, then, explain why they are hazardous	Cognitive Analyzing (4)	1,2,3,5,6	2	2	2	2	1	0
4	Create and implement various types of mission plans	Cognitive Applying (3)	1,2,5	2	1	2	2	1	0
5	Execute seamless transitions from one flight mode to the other while flying an autonomous mission	Psychomotor Perfect (3)	2,5,6	2	0	2	2	1	0
6	Prepare and execute a grid style flight pattern with proper overlap and speed	Psychomotor Perfect (3)	2,5	2	0	2	2	2	0
7	Explain the importance of geofencing	Cognitive Remembering (1)	1,2,5	2	2	2	2	0	0
8	Mount and successfully balance different sensors on a brushless gimbal	Cognitive Applying (4)	1,2,3,6	1	1	2	2	1	0
9	Plan, execute, and submit a survey mission from start to finish	Cognitive Creating (6)	1,2,3,5,6	2	2	2	2	2	0
10	Discuss and list possible issues that could occur on the field and cripple a mission	Cognitive Understanding (2)	1,2,5,6	2	2	2	2	1	0

Bloom's Domain Legend

C = Cognitive
A = Affective
P = Psychomotor

General Education Outcome Legend

2 = Included and Measurable
1 = Introduced and/or Minimally Addressed and Not Measurable
0 = Not included

Approved: May 2021
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