COURSE OUTLINE

UAS 101  Introduction to Unmanned Aircraft Systems (UAS)  3
Course Number  Course Title  Credits

Hours: 3/1  Co- or Pre-requisite  Implementation:

Catalog description:

This course is an overview of unmanned aircraft systems (UAS), emphasizing the commercial and military history, growth, current and future application of UAS in today's world. In addition, this course provides the necessary ground training to take the required FAA written test for Remote Pilot - UAS. Students will also be trained on the basics of flying a UAS. Proof of US citizenship is required.

Is course New, Revised, or Modified? New

Required texts/other materials:

Introduction to Unmanned Aircraft Systems
by Douglas Marshall, R. Kurt Barnhart, Eric Shappee, Michael Most
CRC Press
Latest Edition

Remote Pilot - UASs FAA Prep Online Software
Gleim Publications, Inc.

Federal Aviation Regulations
Latest Edition

Revision date: 3/27/17  Course coordinator: Judith L. Stillwagon, 609-570-3487, stillwaj@mccc.edu

Information resources:
1. Texts to supplement the course text will be utilized along with current industry journals and periodicals.
2. Numerous web-based aviation resources and videos will be used to supplement course material.
3. Guest speakers from the industry will be invited to speak with the class.

Other learning resources:

Pilot Handbook of Aeronautical Knowledge (FAA Publication)
FAA
FAA FAAST Team
Course Competencies/Goals:
The student will be able to:

- Demonstrate knowledge of the history, current and future aspects of UAS industry.
- Explain, Analyze and apply the FAA regulations as they apply to UAS operation.
- Demonstrate basic flying skills with UAS operation.

Course-specific General Education Knowledge Goals and Core Skills.

Communication
- Students will read, write, and listen critically and effectively,
- Students will evaluate and revise their written and oral communication so as to produce effective material related to the commercial UAS industry.

Critical Thinking and Information Literacy:
- Students will use critical thinking and problem-solving skills in analyzing information gathered through various sources throughout the course.
- Students will integrate the information located in a cohesive manner that addresses the research question and then communicate the information to the appropriate audience.

Technology:
- Students will use computer systems and UAS technology to develop their skills in becoming a Remote Pilot - UAS.

History:
- Students will understand the history of UAS development and the impact history has on the current industry.

Ethical Dimension:
- Students will identify issues within the UAS industry such as employment practices, economics; and evaluate their effects on businesses.

Collaboration and Cooperation:
- Students will develop interpersonal skills through group formation and practical situational problem solving in UAS operations.
Units of study in detail.

Unit I  History of UAS (SLO: GE 1,4,5; Core: 1)

Learning Objectives
The student will be able to...

- Identify the development of UAS and how it relates to manned aircraft
- Describe the primitive UAS systems used by the military and experimenters
- acquire an appreciation of the beginning development of UAS and how it has affected the current industry.

Unit II  Operation Aspects of UAS Operation (SLO: GE 1,2; Core 2)

Learning Objectives
The student will be able to...

- Identify operational aspects of UAS operation as it applies to FAA requirements, such as regulations, weather, performance, radio communications, airport operations, aeronautical decision making, and emergency procedures.
- Identify and apply appropriate FAA regulations (part 107).

Unit III  Applications for UAS Operations (SLO: GE:1,2,5; Core: 1)

Learning Objectives
The student will be able to...

- Identify current and future applications of UAS Operation.
- Analyze current and future applications of UAS Operations.

Unit IV  Practical Application of UAS Operations (SLO: GE: 1,3; Core: 2,3)

Learning Objectives
The student will be able to...

- Gain knowledge on control methods of UAS operations
- Gain knowledge and apply appropriate inspections prior to flight
- Apply knowledge of UAS operation and demonstrate basic skills in flying a UAS.

Evaluation of student learning: Tests, assignments, class attendance and participation will be considered for the final grading. The breakdown of grading is:

60% = Objective Tests
20% = FAA Exam
20% = UAS basic flying skills evaluation

The UAS basic flying skills evaluation will be scheduled with the instructor. The student will be expected to display a basic knowledge of flying skills and perform a designated pattern that will be determined by the instructor and provided to the student prior to the evaluation.
Academic Integrity Statement:

A student who knowingly represents the work of others as his/her own, uses or obtains unauthorized assistance in the execution of any academic work, or gives fraudulent assistance to another student is guilty of cheating. The penalty for violating the honor code is severe (see Student Handbook). Any student violating the honor code is subject to receive a failing grade for the course and will be reported to the Office of Student Affairs. If a student is unclear about whether a particular situation may constitute an honor violation, the student should meet with the instructor to discuss the situation.

It is permissible to assist classmates in general discussions and such interaction is encouraged. Students must not work together on graded assignments unless it is a group assignment. A student may not use or copy (by any means) another's work or portions of it and represent it as his/her own.

NOTE:

- Students are required to take all tests on the date scheduled. No makeup tests will be permitted except for extremely serious circumstances.
- Students are expected to attend all of their classes. If a class is missed for any reason it is the student's responsibility to get any material, notes, handouts, announcements, etc.
- Students should be on time for class. If a student walks in late, it is expected that he/she enter the room quietly so that they do not disrupt the class meeting.
- Students are expected to follow ordinary rules of courtesy during class. Engaging in private conversation is distracting to other students and to the instructor.
- Disruptive behavior of any kind is not appropriate and the instructor reserves the right to have a student leave if he/she interferes with the other students' right to receive instruction.
- Cell phones should be turned off during class time. They are a distraction and can disrupt the learning environment.