Course Syllabus
Del Mar College
Syllabus
GUAS 2371 Fundamentals of UAS, 3-1-3, 64

Office Location:

Course Location:

Course section days:

Course section hours:

Office days:

Office hours:

Phone: Office, **Mobile**

Email:

Skype:

Twitter:

GUAS 2371 Fundamentals of UAS, 3-1-3, 64

COURSE DESCRIPTION: This foundation course will apply fundamental Geographic Information Science (GISC) theories, principles and applications in the use of Small Unmanned Aircraft Systems (UAS/sUAS) technology for the acquisition and analysis of geospatial data. The students will become familiar with specialized UAS related technologies including aircraft platforms, sensors, software and applications. Scenarios covering a variety of use cases will explore ways for students to integrate UAS capabilities across multiple career and application opportunities. The student will understand the influence UAS has had on society. The course will define common UAS community terms. The course will introduce UAS software applications. Applicable FAA regulations relating to UAS rating privileges, limitations, and flight operations will be covered. The course explains the effects that physical and environmental phenomenon (weather, topography, landscape) have on small UAS performance. The course will describe operation considerations concerning UAS loading, performance, emergency procedures, crew responsibilities and resource management. The course will outline maintenance and preflight inspection procedures. Pretare student for the FAA 107 RPAC - RPIC exam

LEARNING OUTCOMES/COMPETENCIES:

1. The student will be able to define a sUAS and UAS systems
2. The student will be able to identify and describe the key components and certification requirements for the Remote Pilot in Command of a small unmanned aircraft system.
3. The student will be able to describe how to obtain a part 107 remote pilot certification with a sUAS rating..
4. The student will be able to identify and describe key characteristic of a sUAS and requirements for registration, markings and condition.
5. The student will be able to describe the historical background of UAS and remote sensing.
6. The student will be able to identify and describe multiple UAS and sUAS platforms, specifications and applications.
7. The student will be able to identify and describe sUAS navigation and post processing software.
8. The student will be able to identify and describe introductory and fundamental remote sensing applications.

9. The student will be able to define and describe regulations and best practices as they pertain to the sUAS Remote PIC and supporting crew roles, management and operations.
10. The student will be able to describe describes requirements for verifying that the sUAS is in a condition for safe operation, loading sUAS, evaluating performance, and considering the effects of weather during sUAS operation.
11. The student will be able describe operational requirements and limitations for sUAS.
12. The student will be able to describe potential certificates of waiver for select requirements in part 107 sUAS.
13. The student will be able to identify common abnormal and emergency situations during sUAS operations
14. The student will be able to identify the requirements for reporting sUAS accidents.

Below are the key terms and concepts that the potential RPIC must define, understand and pass for the 60+ question exam.

Key Terms: *UAS, UAV, sUAV, RPIC, FAA, ATC, NOTAMS, HEMS, FSDO; Airspace Class B, C, D, E, G, SFC; Chart Supplements, VFR Map, Terminal Chart, Sectional Chart, Sky Vector, B4UFly, Visual Flight Rules VFR, Instrument Flight Rules IFR, Special Warning Areas and Routes: RA, MOA, PA, AA, MTR, WA; TRSA, MSL, AGL; Weather reports METAR, TAF, AWC, Weather Conditions and Phenomenon: (stable air, unstable air, precipitation, temperature, dew point, barometric pressure) and Cloud Classifications (Stages: Low, Medium, High) (ceiling, nimbostratus, stratus, cumulonimbus, altocumulus, altostratus, cirrus, anvil, overcast, broken); Commercial operator, hobbyist operator, altimeter, Load Factor, Stall, Visual Line of Sight VLOS, Navigation: Air Traffic Patterns (upwind, downwind, crosswind, base, final, med field, Longitude, latitude, bearing, true north, magnetic north, 107 Certification, Authorization, Waiver, COA, Right of Ways,*

GENERAL DESCRIPTION OF THE SUBJECT MATTER OF LECTURES OR DISCUSSIONS BY WEEK:

Week 1: • **O**	**Week2:** •
Week 3: •	**Week 4:** •

Week 5: •	**Week 6:** •
Week 7: •	**Week 8:** • **NSF-ATE Wash DC**
Week 9: • **GIS Day Week**	**Week 10:** • **Thanksgiving recess**
Week 11: •	**Week 12:** • s
Week 13: •	**Week 14:** •
Week 15: • **Review** • **Final Exam**	**FAA 107 Exam for RPAC - RPIC**

TECHNOLOGY REQUIREMENTS:

- You are required to have high-speed or broadband Internet access.
- Students must have Office 2016 available with Word, Excel, PPT, and Access
- Students are expected to regularly check their DMC email and log into Canvas daily. In addition online resources are available through www.delmar.edu (Links to an external site.)Links to an external site.

METHODS OF EVALUATION:

Assignments: Word, Excel, PowerPoint & Access Documents	65%

Quizzes: Word, Excel, PowerPoint & Access Quizzes	15%
Final Exam – Integrated application hands-on final project (4 parts)	10%
Individual Presentation	5%
Group Presentation	5%
Total	100%

- **Tests:** Students are expected to take their tests during the week the unit is scheduled.
- **Attendance**: Measured by you logging into your online classes three – five times a week**.** All students must submit their work to me within the specified time period. This includes financial aid students waiting for their monies. You can reserve and use class textbooks at the Del Mar Library. There are no acceptable excuses for not submitting your assignments during the allotted time period.
- **Absence:** You will be counted *absent* if you do NOT post to the discussion boards weekly and you fail to submit your assignments for the week. I am here to help you and I will do everything in my power to assist you in getting your assignments submitted. (Always keep your instructor informed). In the event that you are unable to complete the course, you are directed to follow the instructions in the student handbook for a formal withdrawal from class. Check the date for withdrawal with an automatic "W". (SB 1231 Course Drop Limitation for Undergraduates applies.)
- **Makeup/Extra credit work is NOT given**. You must complete your assignments and participate in class discussions. *You will be penalized one letter grade for each day late*.
- **Collaborative Learning and Discussions**. You must participate in collaborative chapter assignments and discussions topics. Active participation in discussion topics account for **10%** of your grade in this class.
- **Due Dates:** All assignments are due weekly on or before Monday at midnight.

EXPECTED CLASS-ROOM ETIQUETTE:

Online-based:

- **Participate**. Post your comments, questions, and answers in the Discussion Boards
- **Ask for Help**. If you have any difficulties, call the Help Desk immediately at 698-2330. Send an email to me, and post your problem on the Discussion Board.

- **Collaborate**. Please share your ideas, questions, help, suggestions, and concerns on the Discussion Board.
- **Be Courteous** – No inappropriate comments or offensive statements
- **Absence.** You will be counted absent if you do NOT post to the current week's discussions and /or fail to submit your assignments for the week.

COLLEGE POLICIES:

- **Incomplete ("I") Grade: will only** be assigned according to the guidelines found in the Del Mar College Catalog and Student Handbook, "Incomplete Grade (I)", page 57. A written agreement between the student and the instructor as outlined in the Student Handbook will be necessary for course completion. This agreement will be completed at a date no later than the last day of the semester in which the student is enrolled for the class.
- **Honesty/Ethics:** Students are expected to maintain the integrity of the College by avoiding dishonesty in their own behavior and by expecting honest behavior from their fellow students. One of the requirements for passing a course is that students do their own work. Meeting this requirement means avoiding plagiarism, collusion, and cheating. See college website and DMC 2010-11 catalog page 56 applies.
- **Student Rights and Responsibilities.** While attending Del Mar College, students have specific responsibilities and rights in this academic society. Likewise, a specific standard of conduct is also expected of our students within this society. For a successful academic experience, students and teachers must have mutual respect for each other. Refer to the Student Handbook, page 89, for addition information and clarification concerning this specific topic.
- **Class Attendance.** Students are responsible for attendance and are advised that excessive absences will adversely affect their grades or their continued enrollment in the course. Regular and punctual call and laboratory attendance is expected of you. A record of attendance will be kept by instructors, beginning the first day of class. If attendance is unsatisfactory, the instructor will request your withdrawal from class. DMC 2010-11 catalog page 60 applies.

DMC Peer Tutoring Program

The DMC Peer Tutoring Program is available to all DMC students at no extra cost. Students can spend as much time as needed with tutors. On average, students that seek tutoring within the first month of the semester have an increased probability of successfully passing their course.

DMC Peer Tutoring Program location: Student Success Center, room SC 111. Summer Hours Open Monday -Thursday 8:00 am - 5:00 pm; Friday 8:00 am - 12:30 pm. Contact Bob Klepac MS IT, Tutor Support Services Coordinator at (361) 698-2267 or Tutor Desk at (361) 698-2259. You can visit our website for live Online Tutoring options and workshops.