CS 176.12 Course Outline as of Spring 2019

CATALOG INFORMATION

Dept and Nbr: CS 176.12   Title: APPLIED DRONE PROJECTS
Full Title: Applied Drone Projects
Last Reviewed: 8/27/2018

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total		
Maximum	3.00	Lecture Scheduled	2.50	17.5	Lecture Scheduled		43.75
Minimum	3.00	Lab Scheduled	1.50	8	Lab Scheduled		26.25
		Contact DHR	0		Contact DHR		0
		Contact Total	4.00		Contact Total		70.00
		Non-contact DHR	0		Non-contact DHR		0

Total Out of Class Hours: 87.50   Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade or P/NP
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:

Catalog Description:
Use of drone technology to complete real-world projects including photography/videography and basic mapping.

Prerequisites/Corequisites:
Course Completion of CS 76.11

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Use of drone technology to complete real-world projects including photography/videography and basic mapping. (Grade or P/NP)
Prerequisites/Corequisites: Course Completion of CS 76.11
Recommended:
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree: **Area**   Effective: Inactive:
CSU GE: **Transfer Area**   Effective: Inactive:

IGETC: **Transfer Area**   Effective: Inactive:

CSU Transfer: Effective: Inactive:

UC Transfer: Effective: Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

Approval and Dates

Version:	01	Course Created/Approved:	8/27/2018
Version Created:	4/13/2018	Course Last Modified:	9/28/2021
Submitter:	Donald Laird	Course last full review:	8/27/2018
Version Status:	Approved New Course (First Version)	Prereq Created/Approved:	8/27/2018
Version Status Date:	8/27/2018	Semester Last Taught:	
Version Term Effective:	Spring 2019	Term Inactive:	Spring 2022

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Determine correct drone equipment to complete the requirements of a given project
2. Manage drone-related projects, including working in teams

Objectives:
Upon completion of the course, students will be able to:

1. Choose appropriate drone-related equipment for a given situation
2. Work in a team setting
3. Develop project parameters and plans
4. Provide deliverables which meet project needs
5. Assess project results in order to improve workflow

Topics and Scope:

I. Different Types of Drones
   A. Consumer-level toys
   B. Consumer-level
   C. Professional-level
II. Drone Payloads
   A. Cameras
      1. Visible light

2. Infrared (thermal)
3. Near-infrared
  B. Other sensors and equipment
III. Example Drone Projects
  A. Photography/videography
    1. Capturing images and video
    2. Editing images and video
  B. 2D and 3D mapping
  C. Conducting research
    1. Sampling
    2. Gathering visual data
    3. Using other sensors
IV. Completing Projects
  A. Project planning
    1. Defining project parameters
    2. Developing requirements
    3. Creating teams
  B. Teamwork
    1. Team member selection
    2. Team roles and responsibilities
    3. Post-project assessment
  C. Project completion
    1. Meeting deadlines
    2. Preparing deliverables
    3. Assessing results

All areas to be addressed in both lecture and lab

Assignment:

Lecture-Related Assignments:
1. Reading of 10-20 pages per week
2. Team project requirement plans (1 - 3)
3. Team project timelines (1 - 3)
4. Project assessments (1 - 3)
5. Quizzes (2 - 4)
6. Final exam

Lecture- and Lab-Related Assignments:
1. Completed project deliverables (1 - 3)

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Project plans, timelines, deliverables, and assessments	Writing 10 - 20%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Project plans, timelines, deliverables, and assessments

Problem solving 20 - 50%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Project deliverables

Skill Demonstrations 20 - 30%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes and final exam

Exams 10 - 20%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation

Other Category 10 - 15%

Representative Textbooks and Materials:
Instructor prepared materials

OTHER REQUIRED ELEMENTS

STUDENT PREPARATION

Matric Assessment Required:	X	Exempt From Assessment
Prerequisites-generate description:	A	Auto-Generated Text
Advisories-generate description:	NA	No Advisory
Prereq-provisional:	N	NO
Prereq/coreq-registration check:	Y	Prerequisite Rules Exist
Requires instructor signature:	N	Instructor's Signature Not Required

BASIC INFORMATION, HOURS/UNITS & REPEATABILITY

Method of instruction:	02	Lecture
	04	Laboratory
Area department:	CS	Computer Studies
Division:	72	Arts & Humanities
Special topic course:	N	Not a Special Topic Course
Program status:	1	Certificate Applicable Course
Repeatability:	00	Two Repeats if Grade was D, F, NC, or NP
Repeat group id:		

SCHEDULING

Audit allowed:	Y	Auditable
Open entry/exit:	N	Not Open Entry/Open Exit
Credit by exam:	N	Credit by examination not allowed
Budget code: Program:	0000	Unrestricted
Budget code: Activity:	0701	Computer & Information Science

OTHER CODES

Discipline:		Computer Information Systems
Basic skills:	N	Not a Basic Skills Course
Level below transfer:	Y	Not Applicable
CVU/CVC status:	N	Not Distance Ed
Distance Ed Approved:	N	
Emergency Distance Ed Approved:	N	None
Credit for Prior Learning:	N	Agency Exam
	N	CBE
	N	Industry Credentials
	N	Portfolio
Non-credit category:	Y	Not Applicable, Credit Course
Classification:	Y	Career-Technical Education
SAM classification:	C	Clearly Occupational
TOP code:	0614.60	Computer Graphics and Digital Imagery
Work-based learning:	N	Does Not Include Work-Based Learning
DSPS course:	N	Not a DSPS Course
In-service:	N	Not an in-Service Course
Lab Tier:	21	Credit Lab - Tier 1