

CS 176.2 Course Outline as of Summer 2025**CATALOG INFORMATION**

Dept and Nbr: CS 176.2 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: CS 176.12

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

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:

At the conclusion of this course, the student should 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