

# Renewable Energy

## 30-Hour Certificate

### sUAS (Drones)



**CLOUD COUNTY**  
Community College

Across the U.S. and around the world, small unmanned aircraft systems (sUAS; under 55 lbs.) are rapidly transforming businesses and industries. UASs, or drones, are projected to be a \$21 billion industry by 2022. UASs are already being implemented in agriculture, infrastructure, package delivery, EMS, law enforcement, wind turbine blade inspections, utility substation and power line inspections, wildlife monitoring and reporting, mining, pipeline inspection, and real estate to name just a few. Almost every industry in the next few years will be utilizing UASs in some capacity. The CCCC sUAS program provides training for students who want to become involved in an industry in its infancy. CCCC offers a one-year certificate and a two-year Associate of Applied Science degree program in sUAS.

#### General Education Required Courses **6 cr**

*Communication Requirement* **3**

\_\_CM101 English Composition I (3 cr) **or**

\_\_CM120 Survey of Technical Writing (3 cr)

*Mathematics Requirement* **3**

\_\_MA104 Technical Math (3 cr) **or**

\_\_MA110 Intermediate Algebra (3 cr) **or**

\_\_ Mathematics General Education Course

*\*All electives should be selected with assistance from an advisor.*

*General Education substitutions must be approved by the Vice President for Academic Affairs.*

*Program substitutions must be approved by the department chair.*

#### Required sUAS Courses **18 cr**

\_\_UA110 sUAS Ground School **3**

\_\_UA140 sUAS Applications **3**

\_\_UA150 sUAS Personnel, Safety, &  
Crew Resource Mgmt **3**

\_\_UA201 sUAS Command, Control, & Comm. **3**

\_\_UA210 sUAS Systems & Conceptual Design **3**

\_\_WE240 GIS/GPS **3**

#### **First Semester:**

*(Recommended: UA110, WE110, MA110)*

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#### **Second Semester:**

*(Recommended: UA140, UA150, UA201, UA210, WE240)*

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#### Elective Courses \* **6 cr**

\_\_AG255 Precision Ag Hardware **3**

\_\_AG256 Precision Ag Software **3**

\_\_AR129 Intro to Digital Photography **3**

\_\_CS140 Introduction to Robotics **3**

\_\_CS141 Introduction to Additive Manufacturing  
(3D Printing) **3**

\_\_CS145 Introduction to CAD **3**

\_\_EC101 Principles of Macroeconomics **3**

\_\_MG102 Introduction to Entrepreneurship **3**

\_\_UA100 Introduction to sUAS **3**

\_\_WE110 Electrical Theory **3**

\_\_WE250 Data Acquisition and Communications **3**

\_\_WE280 Wind Energy Technology Internship **4**

Anticipated Completion \_\_\_\_\_ Total Hours \_\_\_\_\_

Minimum 30 credit hrs. with minimum GPA 2.0.



There are many factors to consider when picking the college and the degree that are the best match for you. Explore [ksdegreestats.org](https://ksdegreestats.org) to learn more about the specific costs of each undergraduate degree program offered in Kansas, and the earnings those graduates are making today.

**Total Credits Required 30**

# GENERAL EDUCATION COURSES

## Catalog year 2023 – 24

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### COMMUNICATIONS

- CM101 English Composition I [placement]
- CM102 English Composition II [Comp I]
- CM106 Creative Writing (AA/AS only)
- CM115 Public Speaking
- CM120 Survey of Technical Writing (Cert/AAS/AGS only)  
[placement or Transitional English]
- CM240 Interpersonal Communications

### HUMANITIES

Arts AR100 Art Appreciation

#### Foreign Language

- FL105 French I
- FL111 Spanish I
- FL113 German I

#### History

- HI108 Women in American Society
- HI120 World History I
- HI121 World History II
- HI122 US History I
- HI123 US History II
- HI124 Introduction to History

#### Humanities

- CM106 Creative Writing
- HU201 Humanities I [Comp I]
- HU202 Humanities II [Comp I]
- JN100 Mass Media in Society

#### Literature

- CM121 Intro to Literature [Comp I]
- CM122 American Literature I [Comp I]
- CM123 American Literature II [Comp I]
- CM124 World Literature [Comp I]
- CM127 The Short Story [Comp I]

#### Music

- MU100 Music Appreciation
- MU101 American Music
- MU102 World Music
- MU103 History of Rock Music

#### Philosophy

- PH100 Intro to Philosophy
- PH105 Ethics
- RE104 World Religion

#### Theatre

- CM140 Theater Appreciation
- CM148 American Cinema Appreciation

### MATHEMATICS

- MA104 Technical Math (Cert/AAS only)
- MA105 Survey of Math (Cert/AAS only)
- MA110 Intermediate Algebra [placement]  
(Cert/AAS/AGS only)
- MA111 College Algebra [placement]
- MA112 Trigonometry [Col Alg or placement]
- MA114 Elementary Statistics [placement or College Alg]
- MA115 General Calculus [College Algebra]

### MATH CON'T.

- MA120 Analytical Geom/Calc I [see catalog]
- MA121 Analytical Geom/Calc II [Calc I]
- MA130 Contemporary Math [placement or Interm Alg]

### NATURAL SCIENCES

#### Biological Science

- SC101 General Biology
- SC110 Principles of Biology I
- SC120 Human Anatomy & Physiology I
- SC126 Anatomy and Physiology
- SC151 Principles of Biology II

#### Physical Science

- SC103 Physical Science [Int Alg or placement]
- SC104 Geology
- SC105 General Astronomy
- SC107 Meteorology
- SC130 General Chemistry [Elem Alg or placement]
- SC131 Chemistry I [Int Alg or placement]
- SC137 Natural Hazards & Disasters
- SC138 Natural Hazards & Disasters Lab
- SC140 College Physics I [see catalog]
- SC142 University Physics [co-req Calc I]
- SC146 Environmental Science and Conservation
- SC147 Environmental Science and Conservation Lab

### SOCIAL / BEHAVIORAL SCIENCES

#### Anthropology

- SS125 Intro to Cultural Anthropology

#### Economics

- EC101 Principles of Macroeconomics
- EC102 Principles of Microeconomics

#### Geography

- GE101 World Geography

#### Political Science

- SS140 US Government – National
- SS141 US Government – State & Local
- SS142 Current Political Issues
- SS150 Introduction to International Relations

#### Psychology

- SS101 General Psychology
- SS105 Human Growth & Development

#### Sociology

- SS106 Marriage & Family
- SS130 Introduction to Sociology
- SS131 Cultural Diversity and Ethnicity
- SS201 Social Problems

Pre-requisites are listed in [ ]

Students should see the current catalog for specific program requirements.

The Kansas Board of Regents has approved courses for guaranteed transfer among all Kansas public postsecondary institutions. Visit [www.kansasregents.org/transfer\\_articulation](http://www.kansasregents.org/transfer_articulation) for more information.

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