BIG BEND COMMUNITY COLLEGE
AVIATION
UNMANNED AERIAL SYSTEMS (UAS) – TECHNICAL MANAGEMENT

Due to the growing use of UAS and sensor technology in such areas as agriculture, entertainment, law enforcement, construction, recreation, wildlife, forestry, search and rescue operations, and independent consulting there is great demand for UAS related certifications.

UAS Technical Management is an Associate Applied Science (AAS) degree that prepares students with the knowledge, skills, and abilities to perform UAS operations. This degree includes mechatronics and sensor technologies, system troubleshooting, programming, data collection and management, flight operations and mission planning, and the analysis of data and information using global positioning system (GPS) and geographical information system (GIS) tools.

Aside to the UAS degree, students may also earn a stackable Mechatronics Certificate of Achievement as they progress through the program and into the workforce or onto a university.

**ENTRY REQUIREMENTS**
- Complete Admissions and Placement processes
- Meet with UMS advisor prior to enrolling

**CREDENTIAL REQUIREMENTS**
- Mechatronics Certificate Requirements (49 Credits)
  - ENGL& 101 – Composition I (5)
  - CMST& 220 – Public Speaking (5)
  - MAP 119 – Applied Math for Workforce Programs (5)
  - PSYC& 100 – General Psychology (5)
    or
  - SOC& 101 – Introduction to Sociology (5)
  - FAD 150 – Industrial First Aid and CPR (2)
  - UMS 101 – Intro to Unmanned Aerial Systems (5)
  - MCT 101 – Mechatronics I (5)
  - MCT 102 – Mechatronics II (5)
  - MCT 103 – Mechatronics III (5)
  - MCT 120 – Robotics I (5)
  - MCT 129 – Independent Project (2-5)

- Degree Requirements (
  in addition to certificate courses)
  - CS& 131 – Programming C++ (5)
  - MATH& 141 – Pre-calculus I (5)
  - PHYS& 110 – Physics for Non-Science Majors (5)
    or
  - PHYS& 114 – General Physics I (5)
  - GIS 110 – Geographical Info Systems I (4)
  - GIS 210 – Geographical Info Systems II (3)
  - GIS 220 – Remote Sensing (3)
  - MCT 220 – Robotics II (5)
  - UMS 220 – Beyond Line of Sight (BLOS) Operations (3)

- Degree Electives (minimum 10 credits)
  - MCT 110 – Intro to Mechatronic Applications (3)
  - UMS 107 – Commercial Remote Pilot Certification (2)
  - UMS 142 – UAS Flight Lab (5)
  - UMS 229 – Independent Project (2-5)
  - Advisor Approved Electives

90 TOTAL DEGREE CREDITS
UAS TECHNICAL MANAGEMENT PRE-REQUISITE FLOW CHART

Start by talking with your assigned advisor to determine which courses to take first based on your placement scores.

**Program Courses WITHOUT PRE-requisites**

**Required Courses**
- CMST& 220 – Public Speaking
- FAD 150 – Industrial First Aid & CPR
- PSYC& 100 – General Psychology
- SOC& 101 – Intro to Sociology
- UMS 101 – Intro to Unmanned Systems

**Elective or Recommended Courses**
- UMS 107 – Commercial Remote Pilot Cert
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<th>FALL (17 credits)</th>
<th>WINTER (15 credits)</th>
<th>SPRING (17 credits)</th>
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<tr>
<td>FAD 150 (2)</td>
<td>ENGL&amp;101 (5)</td>
<td>Elective credits (5)</td>
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<td>MATH &amp; 141 (5)</td>
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**ADVISING**

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<td>☐ BBCC Foundation scholarship app</td>
<td>☐ Assess program plan with advisor</td>
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<td>☐ Fill out FAFSA or WAFSA for next year</td>
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<td>☐ Meet with your advisor</td>
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**QUARTERLY REGISTRATION PLANNING**

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# UAS TECH MANAGEMENT QUARTERLY PROGRAM PLAN (YEAR TWO)

## FALL (14 credits)
- CS& 131 (5)
- GIS 110 (4)
- Elective credits (5)

## WINTER (11-16 credits)
- GIS 210 (3)
- MCT 220 (5)
- UMS 220 (3)
- PHYS& 110 or elective (5)

## SPRING (13-18 credits)
- CMST& 220 (5)
- GIS 220 (3)
- PSYC& 100 or SOC& 101 (5)
- PHYS& 114 or Elective (5)

## ADVISING

**FALL**
- Explore transfer options/apply
- Access Career Services

**WINTER**
- Assess program plan with advisor
- Apply for BBCC graduation
- Submit scholarship applications if transferring to a university

**SPRING**
- Submit transcripts to university
- Confirm university acceptance
- Finalize professional application materials with Career Services

## QUARTERLY REGISTRATION PLANNING

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Certificate of Achievement
Students working toward a Certificate of Achievement need to develop a program plan with the faculty advisor in their Workforce Education area of interest. The plan must include all related instruction components. The Certificate of Achievement is designed to provide recognition for the student who has not completed an Associate in Applied Science degree program.

Certificate of Accomplishment
Students working toward a Certificate of Accomplishment need to develop a program plan with the faculty advisor in their Workforce Education area of interest. The Certificate of Achievement is designed to provide recognition for the student who does not complete a Certificate of Achievement or an Associate in Applied Science degree program.

Changes or substitutions for course work in the college catalog must be listed and approved by the advisor. It is essential that students meet quarterly with their advisor before registration to review progress and plan their program.

Each program plan must be approved by the Workforce Education program advisor and Dean of Workforce Education. Certificates will be issued out of the Dean of Workforce Education Instructional Services office.

☐ Certificate of Achievement
☐ Certificate of Accomplishment

Title of Certificate:

__________________________________________________________________________________

Advisor Approval:

_________________________________________ _________________________
Advisor Date

Program Completion Approval:

_________________________________________ _________________________
Dean of Workforce Education Date

_________________________________________ _________________________
Instructional Services Office Assistant Date
Program advisor prior to application for degree. Program changes and substitutions must be approved by the advisor. Each program must be approved by the Workforce Education Program.

Date

Dean of Workforce Education
Program Completion Approval

Date

Advisor
Approval

Current First Aid CPR First Responder or EMT Card
Industrial First Aid and CPR plus Bloodborne Pathogens

INDUSTRIAL FIRST AID REQUIREMENTS: 2 credits in Industrial First Aid or equivalent or higher certification as stated in the approved Professional/Technical Program Plan.

Human Relations Requirement: 3-5 credits in human relations courses as stated in the approved Professional/Technical Program Plan.

MTF 150

Program Plan

Written Communications Requirement: 3-5 credits in written communications courses as stated in the approved Professional/Technical Program Plan.

CST 210

oral Communications Requirement: 3-5 credits in oral communications courses as stated in the approved Professional/Technical Program Plan.

BSS 121

Written Communications Requirement: 3-5 credits in written communications courses as stated in the approved Professional/Technical Program Plan.

BUS 102

Mathematics Requirement: 3-5 credits in mathematics courses as stated in the approved Professional/Technical Program Plan.

Math in Society

Math in Workplace

Math in Workplace I

Math in Workplace II

Applied Mathematics for Workplace I

Applied Mathematics for Workplace II

Applied Mathematics (VCTR/111)

Applied Mathematics (AMT/211)

Human Relations on the Job

Soc 101

Psych 100

Child Development

EDUC 115

Human Relations on the Job

BUS 120

Associate in Applied Science Degree

WORKFORCE EDUCATION PROGRAM REQUIREMENTS

Big Bend Community College