



**ATHENS STATE**  
UNIVERSITY

300 N. Beaty Street  
Athens, Alabama 35611  
(256) 233-8100



# Your Future Is Now!

A NEW DEGREE PROGRAM AT ATHENS STATE

**BACHELOR OF SCIENCE**  
**AEROSPACE SYSTEMS MANAGEMENT**  
**BS-ASM**

# College of Business

## Advanced Manufacturing, Aerospace Systems, and Management of Technology Degree Programs - Launching into the future!

At Athens State, three specific programs within the College of Business address today's high tech and rapid growth industry opportunities: the Advanced Manufacturing Management (AMM), Aerospace Systems Management (ASM), and Management of Technology (MOT) bachelors degrees. All three were developed to prepare our area's uniquely qualified, technology management professionals to serve within the Southeast's high-tech aerospace, automotive, aviation, and advanced manufacturing industries. Each degree program links engineering, science, and management disciplines to meet today's largely computerized and complex industry requirements. These degree programs allow students with 2-year associate degrees in aviation, manufacturing, computer-aided design, or other modern technologies to finish a 4-year, accredited degree, completely online, on their schedule, and with considerable cost savings.

The MOT degree directly addresses the skills required to be successful in the high-tech research and development and project management disciplines whereas the AAM and ASM degrees address advanced manufacturing and the aviation/space industries.

**Our ASM degree program is the first in the state of Alabama that focuses specifically on the systems management aspect of aviation and aerospace technology management as it is designed for the career-minded professional desiring to take the next step into supervision and/or management.** The degrees' coursework emphasize up-to-date, practical, and computer-based applications resulting in key aerospace, manufacturing, and systems management skills. **The ASM degree specifically focuses on two areas, aviation and space systems - aviation for those pursuing a commercial pilot or aircraft mechanic career path and space systems for those aiming at a space systems management career.**



Athens State Captain Aaron Mathis (left), PSA Airlines; Airbus 220 (Mobile production).



YOUR FUTURE

IS NOW!

# BACHELOR OF SCIENCE (B.S.) in AEROSPACE SYSTEMS MANAGEMENT

## BS-ASM

Athens State University has announced a new, on-line bachelor's of science degree in Aerospace Systems Management. The new program will have two areas of possible concentration:

**Aviation** - for those pursuing a commercial pilot or aircraft mechanic career path, and

**Space Systems** - for those aiming at a management career in the exciting 'new space race' and its abundant systems job opportunities.

### Program Overview



Athens State University's College of Business has a new Collaborative 2+2, Distance Learning (asynchronous) degree, with Wallace State and Calhoun Community Colleges to provide unique educational opportunities at the baccalaureate level in aviation and aerospace systems for Alabama students, especially those who are full-time employed.

### Typical Occupations

**POSITIVE JOB  
GROWTH &  
RISING  
SALARIES!**

- \* Commercial Airline pilot (ATP)\*
- \* Airport (FBO) Manager
- \* Aviation Maintenance Manager
- \* Space Mission Planning, Control, and Communications
- \* Aerospace Project Management
- \* Aircraft/Aerospace Manufacturing Manager/Supervisor
- \* Avionics and Aircraft/Spacecraft Systems

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\*For the ATP Certification, a reduction of 500 hours of required flight time is possible with the BS-ASM degree (FAA Circular AC-61-138), once approved.

FOR MORE INFORMATION, CONTACT: Dr. J. Wayne McCain ([drwayne@athens.edu](mailto:drwayne@athens.edu)) or via phone at 256-216-5369 (office) or 256-990-0389 cell or text. Page 3 of 12



**▶ MINIMUM HOURS FOR GRADUATION: 124 SEMESTER HOURS WITH AT LEAST 25 PERCENT OF DEGREE REQUIREMENTS EARNED AT ATHENS STATE. MUST COMPLETE ALL GENERAL EDUCATION AND PRE-PROFESSIONAL COURSES REQUIRED FOR DEGREE OR MAJOR. MUST COMPLETE A MINIMUM OF 60 SEMESTER HOURS FROM AN ACCREDITED BACCALAUREATE DEGREE-GRANTING INSTITUTION. APPLY NO MORE THAN 64 SEMESTER HOURS FROM A COMMUNITY COLLEGE OR NON-TRADITIONAL CREDIT TOWARD DEGREE.** 04/12/2021

\*\*\*PLEASE READ NOTES ON BACK OF THIS FORM

1. APPLICABLE GENERAL UNIVERSITY REQUIREMENTS..... See "▶" above and Catalog
2. GENERAL EDUCATION REQUIREMENTS AND PRE-PROFESSIONAL REQUIREMENTS **\*A SEQUENCE IN LITERATURE OR HISTORY IS REQUIRED\***
  - I. Written Composition..... 6 semester hours
  - II. Humanities & Fine Arts..... 12 semester hours
    - At least one fine arts course (3 semester hours)
    - At least one literature course (3 semester hours)
    - 6 semester hours from Art, Humanities, Literature, Music, Religion, Philosophy, or Speech
  - III. Natural Sciences & Mathematics..... 11 semester hours
    - Finite Math or its equivalent (3 semester hours)
    - Natural Sciences (lab-based) (8 semester hours)
  - IV. History, Social & Behavioral Sciences..... 12 semester hours
    - Must include 6 semester hours of Economics. Students must take at least one history course and one behavioral science course.
  - V. PRE-PROFESSIONAL COURSES (see notes on back of sheet for substitutions)
    - Principles of Accounting (BUS 241/242 or AC 305/306)..... 6 semester hours
    - Business Statistics I (BUS 271 or GBA 305 or MTH 265)..... 3 semester hours
    - Business Statistics II (BUS 272 or GBA 306)..... 3 semester hours
    - Legal and Social Environment of Business (BUS 263 or GBA 311 or BUS 261)..... 3 semester hours
    - Microcomputer Applications (CIS 146 or GBA 301)..... 3 semester hours
    - Elective (ADP 301 required for students that will be using prior learning credit to satisfy requirements for their ASM major) 3 semester hours
    - TOTAL PRE-PROFESSIONAL HOURS..... 21 SEMESTER HOURS

TOTAL GENERAL EDUCATION AND PRE-PROFESSIONAL HOURS..... 62 semester hours

3. PROFESSIONAL COURSES: **COURSES ARE LISTED IN THE ORDER THEY SHOULD BE TAKEN.**

UNV 300 Pathways to Success ( <i>MUST be taken during first semester</i> ).....	3 semester hours		
MG 302 Management Information Systems .....	3 semester hours		
MG 320 Organizational Communications .....	3 semester hours		
MG 346 Principles of Management .....	3 semester hours		
ASM/MG 471 Aviation Law .....	3 semester hours		
ASM/MG 472 Aviation Safety & Security .....	3 semester hours		
ASM/MG 473 Air Traffic Control Fundamentals .....	3 semester hours		
ASM/MG 475 Aviation Weather Management .....	3 semester hours		
ASM/MG 476 Federal Aviation Regulations .....	3 semester hours		
ASM/MG 477 Airport Management .....	3 semester hours		
ASM/MG 485 Aircraft Propulsion Systems .....	3 semester hours		
ASM/MG 487 Aircraft & Space Flight Risk Management .....	3 semester hours		
ASM/MG 488 Aircraft Systems & Flight Engineering .....	3 semester hours		
ASM/MG 489 Aviation & Space Human Factors .....	3 semester hours		
ASM/MG 490 Aerodynamics & Flight Performance .....	3 semester hours		
Elective Course(s) as needed			
* MG 420 Business Policy ( <i>should be taken during last semester</i> ).....	3 semester hours		
* MG 480 Senior Seminar ( <i>should be taken during last semester</i> ).....	1 semester hour		
UNV 400 Career Seminar ( <i>should be taken during last semester</i> ).....	1 semester hour		

4. OTHER PROFESSIONAL CREDIT ..... up to 21 Semester Hours

- Student must obtain approval of plan for "Other Professional Credit" from Advisor. Select Option 1 or 2:
- 1. Technical Core Credit (BLOCK CREDIT) (Institutional Credit) (up to 21 semester hours)  
**<<NOTE: BLOCK Credit is Lower Level Credit>>. Application for this credit may be based on:**  
 Technical Training (4 or more semesters technical school/college), OR  
 Work Experience (6 years documented, successful work experience), OR  
 Professional Program (fine arts or health sciences)  
**Application for Technical Core Credit MUST be filed during student's first term of enrollment at ASU.**
  - 2. Advisor-approved elective hours as needed to total 60 semester hours of upper level credit and 124 total semester hours.

**NOTE: A maximum of 64 semester hours transferred from a community college may be applied to the degree plan (See Academic Policy Library-Transfer and Acceptance of Academic Credit-General University Requirements for Graduation for students admitted Fall 2019 or later).**

5. Earning an acceptable score on an assessment exam containing questions dealing with the competency and skill areas around which the curriculum is based (exam given in MG 420).

6. \*Completion of MG 420 Business Policy and MG 480 Senior Seminar, with a final average of at least 70%.

TOTAL 124 SEMESTER HOURS

HOURS FOR GRADUATION.....

Date:

PLEASE BE AWARE THAT PROGRAM REQUIREMENTS ARE SUBJECT TO CHANGE, AND ARE DEPENDENT ON YOUR ACTUAL DATE OF ENROLLMENT.

Name: \_\_\_\_\_ I.D.#: \_\_\_\_\_ Date of enrollment: \_\_\_\_\_ Advisor: \_\_\_\_\_

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04/14/2021

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	I. Written Composition.....	6 semester hours			
	II. Humanities & Fine Arts.....	12 semester hours			
	At least one fine arts course (3 semester hours)				
	At least one literature course (3 semester hours)				
	6 semester hours from Art, Humanities, Literature, Music, Religion, Philosophy, or Speech				
	III. Natural Sciences & Mathematics.....	11 semester hours			
	Finite Math or its equivalent (3 semester hours)				
	Natural Sciences (lab-based) (8 semester hours)				
	IV. History, Social & Behavioral Sciences.....	12 semester hours			
	Must include 6 semester hours of Economics. Students must take at least one history course and one behavioral science course.				
	TOTAL GENERAL EDUCATION REQUIREMENTS.....	41 semester hours			
	V. PRE-PROFESSIONAL COURSES (see notes on back of sheet for substitutions)				
	Principles of Accounting (BUS 241/242 or AC 305/306).....	6 semester hours			
	Business Statistics I (BUS 271 or GBA 305 or MTH 265).....	3 semester hours			
	Business Statistics II (BUS 272 or GBA 306).....	3 semester hours			
	Legal and Social Environment of Business (BUS 263 or GBA 311 or BUS 261).....	3 semester hours			
	Microcomputer Applications (CIS 146 or GBA 301).....	3 semester hours			
	Elective (ADP 301 required for students that will be using prior learning credit to satisfy requirements for their ASM major)	3 semester hours			
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	MG 302 Management Information Systems .....	3 semester hours			
	MG 320 Organizational Communications .....	3 semester hours			
	MG 346 Principles of Management .....	3 semester hours			
	ASM/MG 481 Spacecraft Environments .....	3 semester hours			
	ASM/MG 482 Mission Planning, Control, and Communications .....	3 semester hours			
	ASM/MG 483 Space Law & Treaties .....	3 semester hours			
	ASM/MG 484 Space Exploration Strategies .....	3 semester hours			
	ASM/MG 485 Aircraft Propulsion Systems .....	3 semester hours			
	ASM/MG 486 Rocket and Spacecraft Propulsion Systems .....	3 semester hours			
	ASM/MG 487 Aerospace Flight Risk Management .....	3 semester hours			
	ASM/MG 488 Aerospace Systems & Flight Engineering .....	3 semester hours			
	ASM/MG 489 Aviation & Space Human Factors .....	3 semester hours			
	ASM/MG 490 Aerodynamics & Flight Performance .....	3 semester hours			
	ASM/MG 491 Commercial Space Enterprises .....	3 semester hours			
	Elective Course(s) as needed				
	* MG 420 Business Policy (should be taken during last semester).....	3 semester hours			
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5.	Earning an acceptable score on an assessment exam containing questions dealing with the competency and skill areas around which the curriculum is based (exam given in MG 420).				
6.	*Completion of MG 420 Business Policy and MG 480 Senior Seminar, with a final average of at least 70%.				
	TOTAL	124 SEMESTER HOURS			
	HOURS FOR GRADUATION.....				

Date: \_\_\_\_\_

PLEASE BE AWARE THAT PROGRAM REQUIREMENTS ARE SUBJECT TO CHANGE, AND ARE DEPENDENT ON YOUR ACTUAL DATE OF ENROLLMENT.

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I.D.#: \_\_\_\_\_

Date of enrollment: \_\_\_\_\_

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## ATHENS STATE AEROSPACE SYSTEMS MANAGEMENT (ASM) PROGRAM

### Course Descriptions & Texts

#### **ASM/MG 470 - INTRODUCTION TO AVIATION. 3 Semester Hours.**

Pr., Department approval. Orientation to aviation management and its career opportunities. The history of significant events and accomplishments in the evolution of aviation and the related attempts to move through air and space. Textbook: Anderson and Eberhardt, *Understanding Flight*, McGraw-Hill; **ISBN:** 0071363777.

#### **ASM/MG 471 - AVIATION LAW. 3 Semester Hours.**

Pr., GBA 311 and ASM/MG 470 or equivalent. The legal structure of aviation including federal, local, and state statutes, contracts, insurance and liability, regulatory statutes and specific case law. Textbook: J. Scott Hamilton, *Practical Aviation Law*, ASA Publisher, 2011; **ISBN:** 978-1560277637.

#### **ASM/MG 472 - AVIATION SAFETY AND SECURITY. 3 Semester Hours.**

Pr., ASM/MG 470 or equivalent. Problems and issues of aviation safety and security including aircraft accidents, their cause, effect and the development of safety and security programs and procedures. Textbooks: Alexander T. Wells, *Commercial Aviation Safety*, McGraw-Hill, 2004; **ISBN:** 0071417427; Sumwalt and Walters, *Aircraft Accident Analysis: Final Reports, 1st Edition*; **ISBN:** 0071351493.

#### **ASM/MG 473 - AIR TRAFFIC CONTROL FUNDAMENTALS. 3 Semester Hours.**

Pr., ASM/MG 470 or equivalent. Air traffic control procedures, facilities, center, and operations. Theory of radar operation and air traffic separation using computer-based ATC radar simulators. Special fee. Textbook: Michael Nolan, *Fundamentals of Air Traffic Control*, Thomson Learning, 2004; **ISBN:** 0534393888.

#### **ASM/MG 474 - GENERAL AVIATION MANAGEMENT. 3 Semester Hours.**

Pr., MG 346 and ASM/MG 471. An overview of general aviation and its impact and interaction with the total aviation industry including a study of the various users, the suppliers and service organizations, the aircraft and facilities, maintenance management, and regulatory framework. Textbook: Alexander T. Wells, *General Aviation Marketing and Management*, Krieger Publishing, 2002; **ISBN:** 1575241927.

#### **ASM/MG 475 - AVIATION WEATHER MANAGEMENT. 3 Semester Hours.**

Pr., ASM/MG 470 or equivalent. Weather as it applies to the operation of aircraft with emphasis on observation of weather elements and interpretation of flight planning weather information; DUATS, WSI services. Textbook: Lester, P.H., *Aviation Weather*, 2<sup>nd</sup> edition, Jeppesen Sanderson, Inc. **ISBN:** 0884871789.

#### **ASM/MG 476 - FEDERAL AVIATION REGULATIONS. 3 Semester Hours.**

Pr., ASM/MG 471. Study and review of Federal Aviation Regulations CFR 14 Parts 43, 91, 121, and 135 as they pertain to management of airports, charter service, certificated air carriers, and general operating and flight rules. Textbook: *FAR/AIM 2019*, FAA, ASA Publisher **ISBN:** 978-1619546684, ASIN: B07MCVVKK1.

#### **ASM/MG 477 - AIRPORT MANAGEMENT. 3 Semester Hours.**

Pr., ASM/MG 474 and MK 331. Practices in management of a civil public airport, including organization, functions, operations, sources of revenue, funding, facility maintenance, and administration. Textbook: Wells & Young, *Airport Planning and Management*, 5<sup>th</sup> Edition, McGraw-Hill; **ISBN:** 0071413014.

#### **ASM/MG 478 - AVIATION MANAGEMENT INTERNSHIP. 3 Semester Hours.**

Pr., Department approval and Senior Standing. Practical on-the-job training under supervision with aviation agencies. Written reports are required by designated faculty supervisors. Textbook: Special materials and supplements to be provided by instructor/agency.

#### **ASM/MG 479 - AVIATION MAINTENANCE MANAGEMENT. 3 Semester Hours.**

Pr., ASM/MG 470 and ASM/MG 474 or equivalent. A study of the basic functions, operations, and importance of aviation maintenance in a comprehensive management context. Covers maintenance fundamentals, technical support, maintenance and material supports, oversight functions, human factors in maintenance, and the art of trouble shooting. Students will have liaison with aviation maintenance facilities to observe management operations. Textbook: Kinnison, *Aviation Maintenance Management*, McGraw-Hill; **ISBN:** 007142251X .



# ATHENS STATE AEROSPACE SYSTEMS MANAGEMENT (ASM) PROGRAM

## Course Descriptions & Texts

### **ASM/MG 481 - SPACECRAFT ENVIRONMENTS. 3 Semester Hours.**

This course provides the beginning aerospace-aviation systems management student insight into the natural and operational phenomena that affect spacecraft systems operating in near Earth and planetary orbits. Emphasis is placed on those environmental factors which are major considerations in the design and operation of space systems. The natural factors treated include the effects of high vacuum, microgravity, the magnetosphere, Solar heating, particle radiation, atmospheric drag and Earth oblateness. Textbook: Tribble, Alan C., The Space Environment, Implications for Spacecraft Design, Princeton University Press, 2003. ISBN (paperback): 0-691-10299-6.

### **ASM/MG 482 - MISSION PLANNING AND CONTROL. 3 Semester Hours.**

An introduction to the concepts of space mission conceptualization, planning, communications, and control while operating in near Earth and planetary orbits is provided in this course. Previous mission planning from NASA missions such as those used during International Space Station, Space Shuttle, Project Apollo and other sources will be utilized as well as un-crewed missions such as the Mars Perseverance Rover. Students will develop and simulate a typical mission in a team environment, including communications and data management utilizing a simulated world-wide deep space network using ZOOM. The team mission will be published as part of the class.

### **ASM/MG 483 - SPACE LAW AND TREATIES. 3 Semester**

An overview and the basics of space law and treaties, especially as it pertains to commercial space endeavors are presented in this course. Included will be review of commentaries, definitions and national legislation from 14 countries including among others: France, Korea, Italy, Netherlands, Australia, Austria, Russia, Japan, Norway, Kazakhstan, Sweden, Spain, UK. The course will offer a general & systematic collection of basic legal documents that will be a required tool for researchers & practitioners. The first part of the course will address principal legal instruments--the so-called 'classical instruments'--elaborated within the United Nations, Principles adopted by the General Assembly, including relevant notes and commentaries. The second part deals with national legislation specifically concerning outer space issues, such as establishing a 'base' on an extraterrestrial body (asteroid), moon, or planet.

### **ASM/MG 484 - SPACE EXPLORATION STRATEGIES. 3 Semester Hours.**

This course addresses an overview and the details of how the space exploration industry has changed over the last few decades. Beginning at the end of the Apollo moon program, attention shifted to the extreme high costs of space launches and particularly the costs per pound of payload (e.g. \$\$/lb to low Earth orbit). NASA sold the Space Transportation System, STS as a major step forward to lowering costs. However, the Shuttle was never able to achieve the required and/or projected launch rates (equal to or greater than 1 mission per month) to even approach the promised order of magnitude savings. The largest roadblock to lowering costs was the non-reuse of space launch hardware. Of late, these 'dreams' are being realized by space entrepreneurs such as Elon Musk with the reusable Falcon 9 rocket. Even greater savings are around the corner with the SpaceX 'Starship'. This course will address all of the important 'game changing' strategies, the people, and the newest space launch hardware and methodologies.

# ATHENS STATE AEROSPACE SYSTEMS MANAGEMENT (ASM) PROGRAM

## Course Descriptions & Texts

### **ASM/MG 485 - AIRCRAFT PROPULSION SYSTEMS. 3 Semester Hours.**

This course provides a study of aircraft propulsion systems ranging from two-cycle piston engines to high performance 'scram jets'. Attention will focus on the design, operation, and performance differences and the evolution of aircraft engines since the early 1800's. Students will learn the advantages and disadvantages of the various engine types and how these parameters govern their application to specific aircraft types and performance regimes. Elementary performance calculations will be presented and contrasted. Overall operations and maintenance of engines will likewise be addressed. A systems management light will be cast on the subject to include fixed and variable operating costs, performance, reliability, and maintenance.

### **ASM/MG 486 - ROCKET AND SPACECRAFT PROPULSION. 3 Semester Hours.**

A study of rocket and spacecraft propulsion systems ranging from monopropellant thrusters, solid propellant rocket motors (SRMs) to the latest high performance Methane-LOX engines used on the SpaceX "Starship" are included in this course. Attention will focus on the design, operation, and performance differences and the evolution of rocket engines since the early 1900's. Students will learn the advantages and disadvantages of the various engine types and how these parameters govern their application to specific mission types and performance regimes. Elementary performance calculations will be presented and contrasted. A life-cycle cost approach will be employed to include development, fixed, and variable operating costs and performance. Overall operations and maintenance of engines will likewise be addressed. A systems management light will be cast on the subject to include fixed and variable operating costs, performance, reliability, and maintenance. Potential future systems such as ion, nuclear, and even 'warp drive' propulsion systems will also be addressed.

### **ASM/MG 487 - AVIATION RISK MANAGEMENT. 3 Semester Hours.**

Risk management techniques for both aircraft and spacecraft missions are addressed in this course. Included will be development of a rational and consistent methodology for identifying and mitigating flight risks based on human, software, hardware, and environmental factors. Formal risk management planning will be addressed and both qualitative and quantitative methods will be employed and contrasted. Formal Risk Management Planning will be taught and evaluated for effectiveness. A systems management approach will be employed and will encompass identification of all resources available to pilots and space crews as well as managers where applicable. Risk avoidance will be stressed. Quantitative software applications such as Palisades @Risk will be evaluated for flight applications. A formal Risk Management Plan (RMP) will be developed for typical private, commercial, and space mission applications.

### **ASM/MG 488 - AIRCRAFT SYSTEMS AND FLIGHT ENGINEERING. 3 Semester Hours.**

This course entails study of the theory, components, and practical applications of systems in simple glider aircraft up to advanced turboprop, turbojet, and turbofan aircraft. It examines electrical, turbine engines, lubrication and cooling, and other systems. For spaceflight, contrasts will be made between the latest Boeing and SpaceX crew capsules to be used for near Earth, Lunar, and even interplanetary space exploration and former crewed spacecraft such as the Shuttle and Apollo. Systems concepts, makeup, and operations will be reviewed.



## **ATHENS STATE AEROSPACE SYSTEMS MANAGEMENT (ASM) PROGRAM**

### **Course Descriptions & Texts**

#### **ASM/MG 489 - AVIATION AND SPACE HUMAN FACTORS. 3 Semester Hours.**

A study of human factors associated with both aircraft and spacecraft flight within the atmosphere and in space is addressed in this course. For aircraft pilots, the typical effects are studied such as altitude (low oxygen, hypoxia), gforces, disorientation, fatigue, etc. In space, humans suffer from effects like weightlessness, motion sickness, radiation and more. These phenomena are explored along with their detriments to both normal bodily functions and abilities to perform required technical maneuvers and other flight control commands. Cognitive effects are also addressed in both environments along with short and long term effects. Recent studies encompassing the yearlong stay of astronauts on the International Space Station (ISS) will be reviewed in the context of this course.

#### **ASM/MG 490 - AERODYNAMICS AND FLIGHT PERFORMANCE. 3 Semester Hours.**

This course is a study of fundamental aerodynamics as it pertains to flight forces such as lift, drag, thrust, etc as well as how these characteristics of airfoils and aircraft shapes and structures affect the craft's performance. Differences between atmospheric and space flight will be addressed and how allowances are made in design and operations. Bernoulli's principle affecting the creation of lift used to counter 'weight' will be explained. Performance where thrust used to counter drag will be addressed. Newton's basic laws of motion will be explored and applied to both aircraft and spacecraft. The importance and practice of sub-sonic and super/hyper sonic wind tunnel testing is included. Various aspects of flight performance will be addressed.

#### **ASM/MG 491 - COMMERCIAL SPACE ENTERPRISES. 3 Semester Hours.**

This course is a study of the business, economics, physical operations, and the paper-train involved in conducting space launch operations including launch site preparation and maintenance, range safety, FAA permits to launch, existing range requirements, payload assembly, transportation of launch vehicle components and assembly, checkout and testing, personnel training and certifications, etc. Also addresses the economic side of commercial space operations, investments, and funding sources. Case studies will be employed and strawman mission planning and ROM cost documentation will be developed for specific missions. MicroSoft Project scheduling and tracking (including costs) will be introduced.



**ATHENS STATE**  
UNIVERSITY

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Athens, Alabama 35611  
(256) 233-8100



## About Us

A TRADITION-RICH UNIVERSITY FOR NON-TRADITIONAL STUDENTS

**Athens State is an upper-division university, meaning we serve junior-level, senior-level, and graduate students in their pursuit of a degree. This makes us uniquely positioned to help students who want to finish or advance their degrees and ultimately maximize their earning potential. We have a long, rich history, but we are built for the un-traditional college student.**

We place a genuine emphasis on producing the graduates that employers desire. We've become a destination for transfer students and for students who have paused their education — students who often find themselves balancing education with demands of adult life, including work and children.

**We meet students where they are today and help them envision a bright tomorrow.**

Not only is Athens State a friendly, personable place to go to college, but because we're an upper-division university, many of our students are working adults who are in need of a flexible degree completion program.

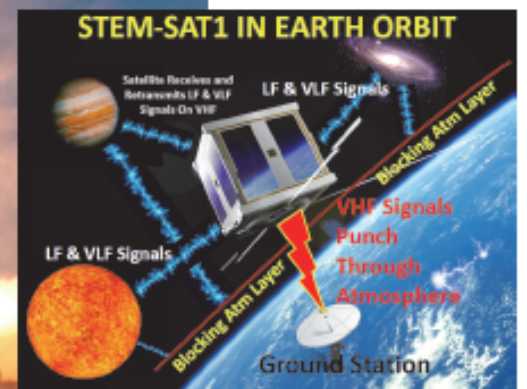
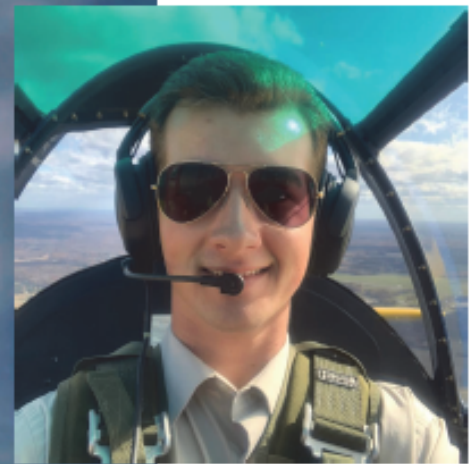
Course schedules at Athens State are built to accommodate you on your time, including nights and weekends, in-person, and online. The many flexible online and hybrid learning opportunities are appealing to many of our students and are the hallmark of a modern university.

## Our History

Founded in 1822, Athens State University is Alabama's oldest educational institution of higher learning. Today, Athens State's role has evolved perhaps more than any other school in the state university system. Certainly, our mission is the most contemporary.

As we prepare to celebrate our bicentennial in 2022, let us be reminded of our rich history and the many inspiring people who have passed through our historic columns. Despite epidemics, wars, and economic downturns, our beloved institution has not only endured but has grown into a highly-respected university.





CW from Btm: Athens State's Captain Aaron Mathis (L), PSA Airlines; Airbus 220 (Mobile production); AVM student M. Blayne McCafferty; Blue Origin's BE-4 Engine (HSV); Athen's AIAA Student Branch CubeSat project; ULA Decatur's Atlas 5 launch (middle).



# A RADIO ASTRONOMY CUBE SAT FOR STEM EDUCATION: STEM-SAT 1

## THE ADVENTURE BEGINS...

CUBESATS WERE DEVELOPED TO SUPPORT STUDENT RESEARCH IN SPACE-BASED  
DICIPLINES INCLUDING DEVELOPOMENT, INTEGRATION, TESTING, AND LAUNCH.

THE NRAO JANSKY VERY LARGE ARRAY NEAR SOCORRO, NEW MEXICO

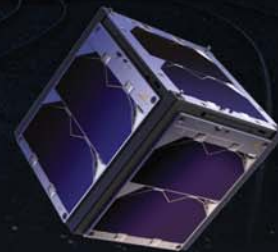
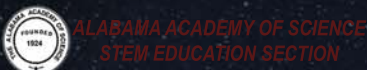
### STEM-SAT 1: COLLABORATORS



STEM-SAT 1



Athens State Student Branch



1U: 4X4X4 INCHES, 3LBS

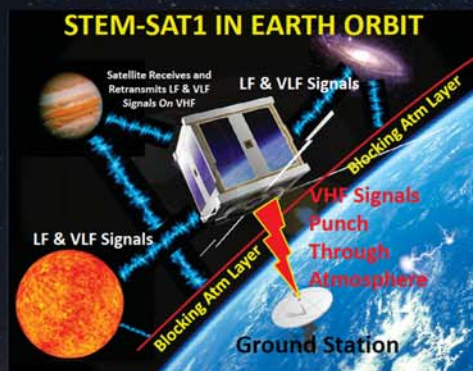
LAUNCHING IN 2023

LAUNCH SERVICES TO LOW  
EARTH ORBIT PROVIDED BY



AFFORDABLE, SAFE, AND  
QUICK-TURN LAUNCHES  
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HYBRID ROCKET  
PROPULSION

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