

Academic Programs at the Daytona Beach Campus

Applied Meteorology

Bachelor of Science

The Applied Aviation Sciences Department offers a Bachelor of Science degree in Applied Meteorology. This program offers students with a passion for weather the opportunity to study, observe, and explore atmospheric phenomena ranging from global climate to tornadoes in our new state-of-the-art Weather Center and computer-equipped classrooms. Besides mastering the essentials of meteorology, students will acquire the communication skills necessary to translate information about complex atmospheric features into the practical language of operational decision makers. The program aims to produce graduates with the necessary knowledge, analytical skills, and operational expertise to add value to any decision impacted by the weather. Graduates will be competitive for jobs ranging from the aviation and aerospace industry to radio and television to business and government/military operations of the 21st century.

Degree Requirements

The Bachelor of Science Degree in Applied Meteorology requires successful completion of a minimum of 120 credit hours and can be attained in eight semesters. Students pursuing the Applied Meteorology degree will select one of five areas of concentration (AOC) from Flight Weather, Media Weather, Commercial Weather, Meteorological Computer Applications, or Research, gener-

ally by the end of their fourth semester. All students must complete the general education courses, Applied Meteorology core courses, and the required courses for one AOC in order to graduate with a Bachelor of Science in Applied Meteorology. A student wishing to become eligible for employment with the U.S. government as a meteorologist must complete the Research or Meteorological Computer Applications AOC in order to meet U.S. Office of Personnel Management Qualification Standards. All students entering the Applied Meteorology program must take a math placement test or show suitable advanced placement. Because many courses have prerequisites or corequisites, students in the Research and Meteorological Computer Applications AOCs should prepare to begin the required calculus sequence as soon as they are eligible.

Bachelor of Science Degree in Applied Meteorology

	Credits
General Education	36/37
Applied Meteorology Core	47
Area of Concentration	29/32
Open Electives	3/8
TOTAL DEGREE CREDITS REQUIRED	120

Academic Programs at the Daytona Beach Campus

University General Education

Course	Title	Credits
	Communication Theory and Skills	9
	Computer Science Elective	3
	Lower-Level Humanities (HU)	3
	Lower-Level Social Sciences (SS)	6
	Upper-Level HU/SS Elective	3
	Mathematics (see specific AOC)	6/7
	Physics (see specific AOC)	6
Total Credits		36/37

Applied Meteorology Core

Course	Title	Credits
UNIV 101	College Success	1
CE AAS	Co-op/Internship or Approved Electives	6
PS 105	General Chemistry	4
WX 201	Survey of Meteorology	3
WX 261	Applied Climatology	3
WX 270	Weather Information Systems	3
WX 353	Thermodynamics of the Atmosphere	3
WX 354	Dynamics of the Atmosphere	3
WX 356	Synoptic Meteorology	3
WX 365	Satellite & Radar Weather Interpretation	3
WX 390	Atmospheric Physics	3
WX 427	Forecasting Techniques	3
WX 422	Statistical Applications for Meteorological Data Analysis	3
WX 456	Advanced Weather Analysis	3
WX 457	Weather Operations Seminar	3
Total Credits		47

Flight Weather Area of Concentration

Course	Title	Credits
AS 121	Private Pilot Operations	5
AS 221	Instrument Pilot Operations*	3
AS 321	Commercial Pilot Operations*	3
AS 309	Aerodynamics	3
AS 310	Aircraft Performance*	3
AS 410	Air Dispatch Operations*	3
AT 200	Air Traffic Management I*	3
WX 301	Aviation Weather	3
WX 364	Weather for Aircrews	3
Total Credits		29

* Indicates courses in the Aircraft Dispatcher Certification Program.

Media Weather Area of Concentration

Course	Title	Credits
AS 120	Principles of Aviation Science	3
COM225	Science & Technology Communications	3
COM260	Introduction to Media	3
COM265	Introduction to News Writing	3
COM320	Communications Law & Ethics -OR-	
HU 330	Values and Ethics	3
COM350	Environmental Communication	3
COM360	Media Relations I	3
WX 265	Climate Change	3
WX 280	Introduction to TV Weathercasting	3
WX 380	Advanced TV Weathercasting	3
Total Credits		30

Commercial Weather Area of Concentration

Course	Title	Credits
AS 120	Principles of Aviation Science	3
BA 220	Marketing	3
BA 221	Advanced Computer Based Systems	3
BA 325	Social Responsibility and Ethics Management	3
EC 210	Microeconomics	3
EC 420	Economics of Air Transportation	3
WX 265	Climate Change	3
	Applied Meteorology Electives	3
	Business Electives	6
Total Credits		30

Meteorological Computer Applications Area of Concentration

Course	Title	Credits
AS 120	Principles of Aviation Sciences	3
CS 225	Computer Science II	4
MA 242	Calculus and Analytical Geometry II	4
MA 243	Calculus and Analytical Geometry III	4
MA 345	Differential Equations and Matrix Methods	4
PS 250	Physics III for Engineers	3
PS 253	Physics Laboratory for Engineers	1
SE 300	Software Engineering Practices	4
CS/SE/CEC	Upper-Level Electives	6
Total Credits		33

Academic Programs at the Daytona Beach Campus

Research Area of Concentration

Course	Title	Credits
AS 120	Principles of Aviation Science.....	3
CS 225	Computer Science II.....	4
MA 242	Calculus and Analytic Geometry II.....	4
MA 243	Calculus and Analytic Geometry III.....	4
MA 345	Differential Equations and Matrix Methods.....	4
PS 250	Physics for Engineers III.....	3
PS 253	Physics Laboratory for Engineers.....	1
WX 420	Advanced Atmospheric Thermodynamics.....	3
WX 490	Advanced Dynamic Meteorology I.....	3
WX 491	Advanced Dynamic Meteorology II.....	3
Total Credits		32

Suggested Program of Study

A word about math and physics requirements: meteorology is an application of math and physics to the sea of air in which we live. Students who wish to pursue graduate studies in the atmospheric sciences or who want to work for the federal government or who are on U.S. Air Force ROTC scholarship should enroll in the Research or Meteorology Computer Applications AOCs and complete the math sequence MA 242, MA 243, and MA 345 by their junior year. Those students should also enroll in the physics sequence PS 150, PS 160, and PS 250. Students pursuing other AOCs should complete MA 111 and MA 112, and PS 103 and PS 104 with labs. Students who are undecided about their futures should begin with MA 140 and PS 150.

Flight Weather Area of Concentration

Students interested in providing weather services to the aviation/aerospace industry should follow this course of study. The mix of courses will enhance the student's ability to communicate with people who build, fly, and control airplanes and flight activities. Courses designated with (*) are required for the Aircraft Dispatcher Certification Program.

FRESHMAN YEAR

Course	Title	Credits
UNIV 101	College Success.....	1
AS 121	Private Pilot Operations.....	5
COM122	English Composition and Literature.....	3
COM219	Speech.....	3
HU 14X	Lower-Level Humanities.....	3
MA 111	College Mathematics for Aviation I.....	3
MA 112	College Mathematics for Aviation II.....	3
PS 103	Technical Physics I.....	3
PS 103L	Technical Physics I Laboratory.....	0
SS	Lower-Level Social Sciences Elective.....	3
WX 201	Survey of Meteorology.....	3
Total Credits		30

SOPHOMORE YEAR

Course	Title	Credits
AS 221	Instrument Pilot Operations.....	3
COM221	Technical Report Writing.....	3
EGR 115	Introduction to Computing for Engineers.....	3
SS	Social Sciences Elective.....	3
PS 104	Technical Physics II.....	3
PS 104L	Technical Physics II Laboratory.....	0
WX 261	Applied Climatology.....	3
WX 270	Weather Information Systems.....	3
WX 301	Aviation Weather.....	3
WX 353	Thermodynamics of the Atmosphere.....	3
WX 354	Dynamics of the Atmosphere.....	3
Total Credits		30

JUNIOR YEAR

Course	Title	Credits
HU/SS	Upper-Level Humanities or Social Sciences Elective.....	3
AS 309	Basic Aerodynamics.....	3
AS 321	Commercial Pilot Operations.....	3
AT 300	Air Traffic Management.....	3
PS 105	General Chemistry.....	4
WX 356	Synoptic Meteorology.....	3
WX 365	Satellite and Radar Weather Interpretation.....	3
WX 390	Atmospheric Physics.....	3
WX 422	Statistical Application for Meteorology... Open Electives.....	3
Total Credits		31

SENIOR YEAR

Course	Title	Credits
AS 310	Aircraft Performance*.....	3
AS 410	Air Dispatch Operations*.....	3
CE AAS	Co-op/Internship.....	6
WX 364	Weather for Aircrews.....	3
WX 427	Forecasting Techniques.....	3
WX 456	Advanced Weather Analysis.....	3

Academic Programs at the Daytona Beach Campus

WX 457 Weather Operations Seminar	3
Open Electives	6
Total Credits	30

Media Weather Area of Concentration

Students interested in journalism, radio, and television will combine meteorology with studies in verbal and written communications. Internships may be conducted with newspapers, radio stations, or network/cable television channels.

FRESHMAN YEAR

Course Title	Credits
UNIV101 College Success	1
AS 120 Principles of Aeronautical Science	3
COM122 English Composition and Literature	3
COM219 Speech	3
HU 14X Lower-Level Humanities	3
MA 111 College Mathematics for Aviation I	3
MA 112 College Mathematics for Aviation II	3
PS 103 Technical Physics I	3
PS 103L Technical Physics I Laboratory	0
SS Lower-Level Social Sciences Elective	3
WX 201 Survey of Meteorology	3
WX 261 Applied Climatology	3
Total Credits	31

SOPHOMORE YEAR

Course Title	Credits
COM221 Technical Report Writing	3
COM260 Introduction to Media	3
SS Social Sciences Elective	3
EGR 115 Introduction to Computing for Engineers	3
PS 104 Technical Physics II	3
PS 104L Technical Physics II Laboratory	0
PS 105 General Chemistry	4
WX 270 Weather Information Systems	3
WX 353 Thermodynamics of the Atmosphere	3
WX 365 Satellite and Radar Weather Interpretation	3
WX 265 Climate Change	3
Total Credits	31

JUNIOR YEAR

Course Title	Credits
COM265 Introduction to News Writing	3
COM320 Mass Communication Law and Ethics	3
COM360 Media Relations I	3
SS Social Sciences Elective	3

WX 280 Introduction to TV Weathercasting	3
WX 354 Dynamics of the Atmosphere	3
WX 356 Synoptic Meteorology	3
WX 390 Atmospheric Physics	3
Open Electives	4

Total Credits 28

SENIOR YEAR

Course Title	Credits
CE AAS Co-op/Internship	6
COM225 Science and Technology Communications	3
COM350 Environmental Communications	3
WX 380 Advanced TV Weathercasting	3
WX 422 Statistical Applications for Meteorology	3
WX 427 Forecasting Techniques	3
WX 456 Advanced Weather Analysis	3
WX 457 Weather Operations Seminar	3
Open Elective	3

Total Credits 30

Commercial Weather Area of Concentration

To meet the growing demand for meteorologists by the private sector, students who select this option will be prepared to provide meteorological expertise to a wide range of weather-dependent industries. By selecting appropriate courses in this highly flexible AOC, students can also complete a Minor in Business Administration.

FRESHMAN YEAR

Course Title	Credits
UNIV101 College Success	1
AS 120 Principles of Aeronautical Science	3
COM122 English Composition and Literature	3
COM219 Speech	3
HU 14X Lower-Level Humanities	3
MA 111 College Mathematics for Aviation I	3
MA 112 College Mathematics for Aviation II	3
PS 103 Technical Physics I	3
PS 103L Technical Physics I Laboratory	0
SS Lower-Level Social Sciences Elective	3
WX 201 Survey of Meteorology	3
WX 261 Applied Climatology	3

Total Credits 31

SOPHOMORE YEAR

Course Title	Credits
BA 221 Advanced Computer Based Systems	3
COM221 Technical Report Writing	3

Academic Programs at the Daytona Beach Campus

EC 210	Microeconomics	3
SS	Social Sciences Elective	3
EGR 115	Intro to Computing for Engineers	3
PS 104	Technical Physics II	3
PS 104L	Technical Physics II Laboratory	0
PS 105	General Chemistry	4
WX 270	Weather Information Systems	3
WX 353	Thermodynamics of the Atmosphere	3
WX 365	Satellite and Radar Weather Interpretation	3

Total Credits 31

JUNIOR YEAR

Course	Title	Credits
BA 220	Marketing	3
HU/SS	Upper-Level Humanities -OR- Social Sciences Elective	3
WX 265	Climate Change	3
WX 356	Synoptic Meteorology	3
WX 390	Atmospheric Physics	3
WX 354	Dynamics of the Atmosphere	3
WX 422	Statistical Applications for Meteorology	3
	Applied Meteorology Electives	3
	Business Elective	3
	Open Electives	3

Total Credits 30

SENIOR YEAR

Course	Title	Credits
BA 325	Social Responsibility and Ethics in Management	3
CE AAS	Co-op/Internship	6
EC 420	Economics of Air Transportation	3
WX 427	Forecasting Techniques	3
WX 456	Advanced Weather Analysis	3
WX 457	Weather Operations Seminar	3
	Business Elective	3

Total Credits 28

Meteorological Computer Applications Area of Concentration

Students wishing to pursue a career in developing applications in meteorology should choose the Meteorological Computer Applications Area of Concentration. The math, physics, and core Meteorology courses are the same as in the Research Area of Concentration. A minor in Computer Science is incorporated into this AOC. Students who choose the Meteorological Computer

Applications Area of Concentration should follow the suggested four-year plan outlined below:

FRESHMAN YEAR

Course	Title	Credits
UNIV	101 College Success Seminar	1
AS 120	Principles of Aeronautical Science	3
COM122	English Composition and Literature	3
MA 142	Trigonometry	3
MA 241	Calculus and Analytical Geometry	4
MA 242	Calculus and Analytical Geometry II	4
PS 105	General Chemistry	4
PS 150	Physics I	3
WX 201	Survey of Meteorology	3
WX 261	Applied Climatology	3

Total Credits 31

SOPHOMORE YEAR

Course	Title	Credits
COM219	Speech	3
COM221	Technical Report Writing	3
EGR 115	Intro to Computing for Engineers	3
HU 14X	Lower-Level Humanities	3
MA 243	Calculus and Analytical Geometry III	4
PS 160	Physics for Engineers II	3
PS 250	Physics III for Engineers	3
PS 253	Physics Laboratory for Engineers	1
WX 353	Thermodynamics of the Atmosphere	3
WX 354	Dynamics of the Atmosphere	3

Total Credits 29

JUNIOR YEAR

Course	Title	Credits
CE	Applied Aviation Science Co-op/Internship	6
CS 225	Computer Science II	4
MA 345	Differential Equations and Matrix Methods	4
SS	Social Sciences Elective	3
WX 270	Weather Information Systems	3
SE 300	Software Engineering Practices	4
WX 356	Synoptic Meteorology	3
WX 365	Satellite and Radar Weather Interpretation	3

Total Credits 30

SENIOR YEAR

Course	Title	Credits
HU/SS	Upper-Level Elective	3
SS	Lower-Level Elective	3
WX 390	Atmospheric Physics	3
WX 422	Statistical Applications for Meteorology	3
WX 427	Forecasting Techniques	3

Academic Programs at the Daytona Beach Campus

WX 456	Advanced Weather Analysis	3
WX 457	Weather Operations Seminar	3
CS/SE/CEC	Upper-Level Electives	6
	Open Electives	3
Total Credits		30
TOTAL DEGREE CREDITS		120

Research Area of Concentration

Students wishing to go to graduate school in Meteorology, or wishing to become eligible for Meteorology employment with the U.S. government, or who are on ROTC Meteorology scholarships should choose the Research Area of Concentration. Students who choose the Research Area of Concentration should follow the four-year plan outlined below:

FRESHMAN YEAR

Course	Title	Credits
UNIV 101	College Success Seminar	1
AS 120	Principles of Aeronautical Science	3
COM 122	English Composition and Literature	3
MA 142	Trigonometry	3
MA 241	Calculus and Analytical Geometry	4
MA 242	Calculus and Analytical Geometry II	4
PS 105	General Chemistry	4
PS 150	Physics for Engineers I	3
WX 201	Survey of Meteorology	3
WX 261	Applied Climatology	3
Total Credits		31

SOPHOMORE YEAR

Course	Title	Credits
COM 219	Speech	3
COM 221	Technical Report Writing	3
EGR 115	Introduction to Computing for Engineers	3
HU 14X	Lower-Level Humanities	3
SS	Social Sciences Elective	3
MA 243	Calculus and Analytical Geometry III	4
PS 160	Physics for Engineers II	3
PS 250	Physics for Engineers III	3
PS 253	Physics Laboratory for Engineers	1
WX 353	Thermodynamics of the Atmosphere	3
WX 354	Dynamics of the Atmosphere	3
Total Credits		32

JUNIOR YEAR

Course	Title	Credits
SS	Lower-Level Elective	3
CE AAS	Co-op/Internship	6
CS 225	Computer Science II	4
MA 345	Differential Equations and Matrix Methods	4
WX 270	Weather Information Systems	3
WX 356	Synoptic Meteorology	3
WX 420	Advanced Atmospheric Thermodynamics	3
WX 365	Satellite and Radar Weather Interpretation	3
Total Credits		29

SENIOR YEAR

Course	Title	Credits
HU/SS	Upper-Level Elective	3
WX 390	Atmospheric Physics	3
WX 422	Statistical Applications for Meteorology	3
WX 427	Forecasting Techniques	3
WX 456	Advanced Weather Analysis	3
WX 457	Weather Operations Seminar	3
WX 490	Dynamic Meteorology I	3
WX 491	Dynamic Meteorology II	3
	Open Electives	4
Total Credits		28
TOTAL DEGREE CREDITS		120