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### *Homeland Security*

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#### Bachelor of Science

The Applied Aviation Sciences Department offers a Bachelor of Science degree in Homeland Security that is based on the needs of the U.S. government and its citizens as well as the needs of the private sector. The Homeland Security degree combines the University's General Education requirements with a solid core of homeland security courses as well as specialty coursework in emergency management, terrorism studies, or cyber security. In addition, this degree allows the student to take maximum advantage of transfer credits and electives in order to explore breadth in related areas of study including either language, international relations courses, safety, or business courses.

Students can choose one of two ways to specialize their homeland security education: either through an area of concentration in emergency management or terrorism studies, or through technical study in cyber security. Either way, the Homeland Security degree is designed for students who have an interest in obtaining a strong foundation in many of the domains of modern homeland security, including terrorism studies, law and policy, critical infrastructure and risk analysis, strategic planning, intelligence, environmental security, and emergency management.

Required internship and cooperative work experiences optimize the student's professional preparation and credentials. The goal of the degree is to produce highly marketable graduates with entry-level skills such as the ability to perform risk analyses, write emergency management plans, design and evaluate exercises, design, deliver professional briefings, and understand how to

identify and protect critical infrastructure. Graduates of this program will find employment opportunities in the federal or state government, universities, or the private sector. In addition, the HS program is ideal preparation for further study in graduate school, including law, public policy, or emergency management.

#### **Degree Requirements**

The Bachelor of Science degree in Homeland Security requires successful completion of a minimum of 120 credit hours and is normally completed in eight semesters as outlined below. Students enrolling in the cyber security track should be aware that this is a technical degree and will require calculus I in their first semester and calculus II in their second. Students should be aware that several courses have prerequisites or corequisites and should check course descriptions to be sure such requirements are met. There are two areas of concentration (AOCs) available: emergency management or terrorism studies. All students not enrolled in the cyber security track are required to complete one AOC. All Homeland Security majors must complete a senior capstone course (HS 490) and an internship or co-op (at either 2 credits or 200+ hours) between either the sophomore or junior years or between the junior and senior years.

Students transferring into the program who have earned academic credits in homeland security-related coursework or professional experience can be granted up to 16 credit hours from the specified elective areas per approval from the program coordinator.

# Academic Programs at the Daytona Beach Campus

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## B.S. in Homeland Security with Area of Concentration

General Education	37
Homeland Security Core	31
Program Support	27
Area of Concentration	12
Electives	13
<b>TOTAL DEGREE CREDITS</b>	<b>120</b>

## B.S. in Homeland Security with Cyber Security Track

General Education	39
Homeland Security Core	28
Cyber Security Track	31
Program Support	24
<b>TOTAL DEGREE CREDITS</b>	<b>122</b>

## General Education

Course Title	Credits
COM Communication Theory & Skills	9
CS Computer Science***	3
HU Lower-Level Humanities	3
HU/SS Upper Level	3
MA Mathematics**	6
PS Physical Science (lab must be included)	6
SS Lower-Level Social Sciences*	6
UNIV 101 College Success	1
<b>Total Credits</b>	<b>37</b>

\*We suggest PSY 101 and one other SS course.

\*\*We suggest MA 111 and MA 112 -OR- MA 140 and MA 142 -OR- equivalent.

\*\*\*We suggest EGR 115 or equivalent.

## Homeland Security Core Courses

Course Title	Credits
HS 110 Introduction to Homeland Security	3
HS 210 Fundamentals of Transportation Security	3
HS 215 Introduction to Industrial Security	3
HS 230 Terrorism: Origins, Ideologies, and Goals	3
HS 280 Business Skills for the Homeland Security Professional	1
HS 310 Fundamentals of Emergency Management	3
HS 315 Critical Infrastructure and Risk Analysis	3

HS 320 Homeland Security Law and Policy	3
HS 385 Homeland Security Technology & Systems	3
HS 405 Emerging Topics in Homeland Security	3
HS 480 Environmental Security	
-OR-	
WX 480 Environmental Security	3
HS 490 Senior Project in Homeland Security* Cooperative Education**	3

**Total Credits** **31**

\*HS 490 will be included in the chosen Area of Concentration.

\*\*The cooperative education or internship experience at the equivalent of two or more credits should be taken between the sophomore and junior year, or between the junior and senior year and will be counted toward the Area of Concentration.

## Program Support

### (Non-Cyber Security Track)

Course Title	Credits
SF 201 Introduction to Health, Occupational, & Transportation Safety	
-OR-	
SF 210 Introduction to Aerospace Safety	3
SF 355 Industrial Hygiene and Toxicology	3
SF 315 Environmental Compliance and Safety	
-OR-	
SF 405 Applications in Industrial Hygiene	
-OR-	
SF 462 Health, Safety, and Aviation Law	3
HU/SS Upper-Level HU or SS*	15
MA 222 Business Statistics (or equivalent)	3
<b>Total Credits</b>	<b>27</b>

\*Suggested Social Sciences courses: SS 325, 326, 331, 333, 334, 336, 340, 363, -OR- International Relations Minor, or consent of advisor.

Electives	13
Area of Concentration*	12

**TOTAL DEGREE CREDITS** **120**

\*Emergency Management or Terrorism Studies.

## Emergency Management Area of Concentration

The emergency management Area of Concentration will build on fundamentals

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of emergency management as well as critical infrastructure and risk analysis by including more in-depth courses that cover the incident command system (ICS), the national incident management system (NIMS) and the Homeland Security Exercise and Evaluation Program (HSEEP) and broader evaluation of the relationships between terrorism and emergency management. Students will engage in planning, implementing, and evaluating community-based or organizationally-based scenarios and discussion-based (e.g., table top, workshops, seminars, games) exercises. Courses will deepen the students' understanding of all four phases of emergency management, exercise design and evaluation, and the role of emergency management in homeland security. Students will learn vital skills that industry and the government both need and want, such as risk analysis, how to develop an organizational emergency management plan, and how to design and evaluate homeland security exercises. Students culminate this AOC with a senior project in emergency management, normally for a real client.

### ***Emergency Management Area of Concentration***

Course	Title	Credits
HS 370	Emergency Management Strategy & Policy . . . . .	3
HS 408	Terrorism and Emergency Management . . .	3
HS 410	Exercise Design and Evaluation in Homeland Security . . . . .	3
HS 490	Senior Project in Homeland Security . . .	3
<b>Total Credits</b>		<b>12</b>

### **Terrorism Studies Area of Concentration**

The AOC in Terrorism will build on Terrorism: Origins, Ideologies and Goals as well as on Critical Infrastructure and Risk

Analysis by providing a deeper exploration of the roots, motivations, mechanisms, and operations of terrorist cells and groups. Courses will examine critical aspects of terrorism and counter-terrorism concepts, strategies, and operational outcomes. Terrorism and Emergency Management (also used in the Emergency Management AOC), will acquaint students with ways in which the discipline of emergency management adjusts to prepare, respond, mitigate, and recover from terrorism, and will provide a conceptual bridge between this AOC and the AOC in Emergency Management. Asymmetric Terrorism exposes the student to ways and means by which terrorists (and counter-terrorist activity) leverage technology and critical thinking to achieve objectives and Counter-Terrorism Strategy & Policy exposes students to high-level strategic concepts involving counter-terrorist policy and activities and involves in-depth examinations of U.S. strategic plans and policies to achieve homeland security objectives. Students in this AOC will develop a senior project in terrorism.

### ***Terrorism Studies Area of Concentration***

Course	Title	Credits
HS 380	Asymmetric Terrorism: Cyberspace, Technology and Innovation . . . . .	3
HS 408	Terrorism and Emergency Management . . .	3
HS 425	Counter Terrorism Strategy and Policy . . .	3
HS 490	Senior Project in Homeland Security . . . .	3
<b>Total Credits</b>		<b>12</b>

## Suggested Program of Study

### FRESHMAN YEAR

Course	Title	Credits
COM	Communication, Theory, and Skills . . . . .	3
CS	Computer Science . . . . .	3
HS 110	Introduction to Homeland Security . . . . .	3
HU	Lower-Level Humanities . . . . .	3
MA 111	College Mathematics for Aviation I	
	-OR-	

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MA 140	College Algebra	3
MA 112	College Mathematics for Aviation II	
	-OR-	
MA 142	Trigonometry	3
PS	Physical Science with Laboratory	6
SF 201	Introduction to Health, Occupational, and Transportation Safety	
	-OR-	
SF 210	Introduction to Aerospace Safety	3
SS	Lower-Level Social Sciences	3
UNIV 101	College Success	1

**Total Credits** 31

### SOPHOMORE YEAR

Course	Title	Credits
COM	Communication, Theory, and Skills	6
HS 210	Fundamentals of Transportation Security	3
HS 215	Introduction to Industrial Security	
	-OR-	
SF 311	Industrial Security	3
HS 230	Terrorism: Origins, Ideologies, and Goals	3
HS 280	Business Skills for the Homeland Security Professional	1
HU	Upper-Level Humanities	6
SF 355	Industrial Hygiene and Toxicology	3
SS	Lower-Level Social Sciences	3
MA 222	Business Statistics	3

**Total Credits** 31

Note: All Homeland Security majors must complete a senior capstone course (HS 490) and an internship or co-op (at either 2 credits or 200+ hours) between either the sophomore or junior years or between the junior and senior years.

### JUNIOR YEAR

Course	Title	Credits
HS 310	Fundamentals of Emergency Management	3
HS 315	Critical Infrastructure and Risk Analysis	3
HS 320	Homeland Security Law and Policy	3
HS 385	Homeland Security Technology & Systems	3
HU/SS	Upper-Level Humanities and Social Sciences	12
SF 315	Environmental Compliance and Safety	
	-OR-	
SF 405	Applications in Industrial Hygiene	
	-OR-	
SF 462	Health, Safety, and Aviation Law	3
	Open Electives	3

**Total Credits** 30

### SENIOR YEAR

Course	Title	Credits
HS 405	Emerging Issues in Homeland Security	3
HS 480	Environmental Security	
	-OR-	
WX 480	Environmental Security	3
HS	Area of Concentration	12
	Open Electives	10

**Total Credits** 28

## Cyber Security Track

The Cyber Security Track is a technical track. Students majoring in Homeland Security and choosing the cyber security track therefore qualifies as being in a technical degree program. Students will be able to explore many aspects of the digital world as they pertain to homeland security, network design, and network management. The cyber security track combines a broad core of Homeland Security courses with solid preparation in programming, network design, data hiding/abstraction, network analysis, network security, software quality assurance, and telecommunications.

## General Education

Course	Title	Credits
UNIV 101	College Success	1
COM	Communication, Theory, and Skills	9
HU	Lower-Level Humanities	3
HU	Upper-Level Humanities	3
SS	Lower-Level Social Sciences*	6
MA 241	Calculus and Analytical Geometry I	
	-AND-	
MA 242	Calculus and Analytical Geometry II	8
EGR 115	Introduction to Computing for Engineers	3
PS 150	Physics for Engineers I	
	-AND-	
PS 160	Physics for Engineers II	6

**Total Credits** 39

\*We suggest PSY 101 and one additional course.

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### Homeland Security Core Courses

Course	Title	Credits
HS 110	Introduction to Homeland Security . . . . .	3
HS 210	Fundamentals of Transportation Security	3
HS 215	Introduction to Industrial Security . . . . .	3
HS 230	Terrorism: Origins, Ideologies, and Goals	3
HS 280	Business Skills for the Homeland Security Professional . . . . .	1
HS 310	Fundamentals of Emergency Management . . . . .	3
HS 315	Critical Infrastructure and Risk Analysis	3
HS 320	Homeland Security Law and Policy . . . . .	3
HS 405	Emerging Topics in Homeland Security	3
HS 480	Environmental Security	
	-OR-	
WX 480	Environmental Security . . . . .	3
HS 490	Senior Project in Homeland Security . . . . .	3
	Cooperative Education**	
<b>Total Credits</b>		<b>31</b>

### Cyber Security Technical Courses

Course	Title	Credits
CEC 460	Telecommunications Systems . . . . .	3
CS 225	Computer Science II . . . . .	4
CS 303	Network Security	
	-OR-	
IT 320	Network Configurations . . . . .	3
MA 243	Calculus and Analytic Geometry III. . . . .	4
MA 412	Probability and Statistics* . . . . .	3
PS 250	Physics III for Engineers . . . . .	3
PS 253	Physics Laboratory for Engineers . . . . .	1
SE 300	Software Engineering Practices . . . . .	4
SE 420	Software Quality Assurance . . . . .	3
<b>Total Credits</b>		<b>28</b>

\*WX 422 may be substituted.

### Program Support

Course	Title	Credits
SF 201	Introduction to Health, Occupational, & Transportation Safety	
	-OR-	
SF 210	Introduction to Aerospace Safety . . . . .	3
SF 355	Industrial Hygiene and Toxicology . . . . .	3
SF 315	Environmental Compliance and Safety	
	-OR-	
SF 405	Applications in Industrial Hygiene	
	-OR-	
SF 462	Health, Safety, and Aviation Law . . . . .	3

WX 210	Introduction to Geographic Information Systems . . . . .	3
WX 310	Advanced Geographic Information Systems . . . . .	3
	Electives*	9
<b>Total Credits</b>		<b>24</b>

\*Electives to be guided by advisor.

<b>TOTAL DEGREE CREDITS</b>	<b>122</b>
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### Suggested Program of Study

#### FRESHMAN YEAR

Course	Title	Credits
COM	Communication, Theory, and Skills . . . . .	3
EGR 115	Introduction to Computing for Engineers . . . . .	3
HS 110	Introduction to Homeland Security . . . . .	3
HU	Lower-Level Humanities . . . . .	3
MA 241	Calculus and Analytical Geometry I . . . . .	4
MA 242	Calculus and Analytical Geometry II . . . . .	4
PS 150	Physics for Engineers I . . . . .	3
PS 160	Physics for Engineers II . . . . .	3
SS	Lower-Level Social Sciences . . . . .	3
UNIV 101	College Success . . . . .	1
<b>Total Credits</b>		<b>30</b>

#### SOPHOMORE YEAR

Course	Title	Credits
CS 225	Computer Science II . . . . .	4
HS 210	Fundamentals of Transportation Security . . . . .	3
HS 215	Introduction to Industrial Security	
	-OR-	
SF 311	Industrial Security . . . . .	3
HS 230	Terrorism: Origins, Ideologies, and Goals	3
HS 280	Business Skills for the Homeland Security Professional . . . . .	1
MA 243	Calculus and Analytical Geometry III. . . . .	4
PS 250	Physics III for Engineers . . . . .	3
PS 253	Physics Laboratory for Engineers . . . . .	1
SF 201	Introduction to Health, Occupational, & Transportation Safety	
	-OR-	
SF 210	Introduction to Aerospace Safety . . . . .	3
SF 355	Industrial Hygiene and Toxicology . . . . .	3
SS	Lower-Level Social Sciences . . . . .	3
<b>Total Credits</b>		<b>31</b>

#### JUNIOR YEAR

Course	Title	Credits
COM	Communication Theory and Skills . . . . .	6

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CS	303	Network Security -OR-	
IT	320	Network Configurations . . . . .	3
HU		Upper-Level Humanities . . . . .	3
HS	310	Fundamentals of Emergency Management . . . . .	3
HS	315	Critical Infrastructure and Risk Analysis . . . . .	3
HS	320	Homeland Security Law and Policy . . . . .	3
SE	300	Network Engineering Practices . . . . .	4
SF	315	Environmental Compliance and Safety -OR-	
SF	405	Applications in Industrial Hygiene -OR-	
SF	462	Health, Safety, and Aviation Law . . . . .	3
WX	210	Introduction to Geographic Information Systems . . . . .	3
<b>Total Credits</b>			<b>31</b>

### SENIOR YEAR

Course	Title	Credits
CEC	460 Telecommunications Systems . . . . .	3
HS	405 Emergent Topics in Homeland Security . . .	3
HS	480 Environmental Security -OR-	
WX	480 Environmental Security . . . . .	3
HS	490 Senior Project in Homeland Security . . . . .	3
SE	420 Software Quality Assurance . . . . .	3
WX	310 Advanced Geographic Information Systems . . . . .	3
MA	412 Probability and Statistics -OR-	
WX	422 Statistical Applications for Meteorological Data . . . . .	3
	Electives . . . . .	9
<b>Total Credits</b>		<b>30</b>
<b>TOTAL DEGREE CREDITS</b>		<b>122</b>