

Curriculum Standard for Transportation Operations:

Career Cluster: Transportation, Distribution, and Logistics

Cluster Description: The planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

Pathway: Transportation Operations

Effective Term: Fall 2015(2015*03)

Program Majors Under Pathway

Program Major / Classification of Instruction Programs (CIP) Code	Credential Level(s) Offered	Program Major Code
Aviation Management & Career Pilot Technology CIP Code: 49.0102	AAS/Diploma/Certificate	A60180

Pathway Description: The Aviation Management and Career Pilot Technology curriculum prepares individuals for a variety of aviation and aviation-related careers including the commercial airlines, general aviation, the aerospace industry, the military, unmanned aircraft systems industries, and state and federal aviation organizations.

Course work includes fundamentals of flight, aerodynamics, aircraft performance, meteorology, navigation, federal regulations, aviation management, unmanned aircraft systems, and instrument and commercial ground training, flight and simulator training, and entrepreneurship or business management training.

Graduates may earn a commercial pilot certificate with an instrument rating, specialize in aviation management or in unmanned air systems, and may find employment as commercial, corporate, and military pilots, fixed base operators and airport managers, as pilots or technicians in the unmanned aircraft systems industry, or as flight instructors, and flight dispatchers.

Program Description: Choose one of the following 4th paragraphs to use in conjunction with the first three paragraphs of the pathway description above for documentation used to identify each Program Major:

N/A

I. General Education Academic Core

[Curriculum Requirements for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.10]: Degree programs must contain a minimum of 15 semester hours including at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural sciences/mathematics. Degree programs must contain a minimum of 6 semester hours of communications. Diploma programs must contain a minimum of 6 semester hours of general education; 3 semester hours must be in communications. General education is optional in certificate programs.

Aviation Management & Career Pilot Technology

General Education Academic Core	AAS	Diploma	Certificate																									
Minimum General Education Hours Required:	15 SHC	6 SHC	0 SHC																									
<p><i>Courses listed below are recommended general education courses for this curriculum standard. Colleges may choose to include additional or alternative general education courses to meet local curriculum needs.</i></p> <p><i>*Recommended certificate and diploma level curriculum courses. These courses may <u>not</u> be included in associate degree programs.</i></p> <p>Communications:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 5%;">*</td> <td style="width: 10%;">COM</td> <td style="width: 10%;">101</td> <td style="width: 35%;">Workplace Communication</td> <td style="width: 10%;">3 SHC</td> </tr> <tr> <td></td> <td>COM</td> <td>110</td> <td>Introduction to Communication</td> <td>3 SHC</td> </tr> <tr> <td></td> <td>COM</td> <td>120</td> <td>Intro Interpersonal Com</td> <td>3 SHC</td> </tr> <tr> <td></td> <td>COM</td> <td>231</td> <td>Public Speaking</td> <td>3 SHC</td> </tr> <tr> <td>*</td> <td>ENG</td> <td>101</td> <td>Applied Communications I</td> <td>3 SHC</td> </tr> </table>				*	COM	101	Workplace Communication	3 SHC		COM	110	Introduction to Communication	3 SHC		COM	120	Intro Interpersonal Com	3 SHC		COM	231	Public Speaking	3 SHC	*	ENG	101	Applied Communications I	3 SHC
*	COM	101	Workplace Communication	3 SHC																								
	COM	110	Introduction to Communication	3 SHC																								
	COM	120	Intro Interpersonal Com	3 SHC																								
	COM	231	Public Speaking	3 SHC																								
*	ENG	101	Applied Communications I	3 SHC																								

* ENG	102	Applied Communications II	3 SHC	6 SHC	3-6 SHC	Optional
ENG	110	Freshman Composition	3 SHC			
ENG	111	Writing and Inquiry	3 SHC			
ENG	114	Professional Research & Reporting	3 SHC			
ENG	116	Technical Report Writing	3 SHC			
Humanities/Fine Arts:						
* HUM	101	Values in the Workplace	2 SHC	3 SHC	0-3 SHC	Optional
HUM	110	Technology and Society	3 SHC			
HUM	115	Critical Thinking	3 SHC			
HUM	230	Leadership Development	3 SHC			
PHI	230	Introduction to Logic	3 SHC			
PHI	240	Introduction to Ethics	3 SHC			
Social/Behavioral Sciences:						
ECO	151	Survey of Economics	3 SHC	3 SHC	0-3 SHC	Optional
ECO	251	Prin of Microeconomics	3 SHC			
GEO	110	Introduction to Geography	3 SHC			
GEO	111	World Regional Geography	3 SHC			
GEO	131	Physical Geography I	4 SHC			
* PSY	101	Applied Psychology	3 SHC			
* PSY	102	Human Relations	2 SHC			
PSY	118	Interpersonal Psychology	3 SHC			
PSY	135	Group Processes	3 SHC			
PSY	150	General Psychology	3 SHC			
* SOC	105	Social Relationships	3 SHC			
SOC	210	Introduction to Sociology	3 SHC			
SOC	215	Group Process	3 SHC			
Natural Sciences/Mathematics:						
MAT	110	Mathematical Measurements	3 SHC	3 SHC	0-3 SHC	Optional
MAT	121	Algebra/Trigonometry I	3 SHC			
MAT	143	Quantitative Literacy	3 SHC			
MAT	152	Statistical Methods I	3 SHC			
MAT	171	Precalculus Algebra	3 SHC			
MAT	223	Applied Calculus	3 SHC			
MAT	271	Calculus I	4 SHC			

II. Major Hours. AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work-based learning may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit. Below is a description of each section under Major Hours.

- A. Technical Core.** The technical core is comprised of specific courses which are required for all Program Majors under this Curriculum Standard. A diploma program offered under an approved AAS program standard or a certificate which is the highest credential level awarded under an approved AAS program standard must include a minimum of 12 semester hours credit derived from the curriculum core courses or core subject area of the AAS program.
- B. Program Major(s).** The Program Major must include a minimum of 12 semester hours credit from required subjects and/or courses. The Program Major is in addition to the technical core.
- C. Other Major Hours.** Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours of credit may be selected from any prefix listed, with the exception of prefixes listed in the core.

Aviation Management & Career Pilot Technology	AAS	Diploma	Certificate
Minimum Major Hours Required:	49 SHC	30 SHC	12 SHC
<p>A. Technical Core:</p> <p>AER 110 Air Navigation 3 SHC AER 111 Aviation Meteorology 3 SHC AER 112 Aviation Laws and FARs 2 SHC AER 150 Private Flight Theory 3 SHC</p> <p>Required Subject Areas: Select one. <i>For AAS Degree select one program track:</i></p> <p>Aviation Management: AER 114 Aviation Management 3 SHC and Select 9 SHC from the following prefixes: AER and/or BUS</p> <p>Pilot (Manned): AER 151 Flight-Private Pilot 1 SHC AER 160 Instrument Flight Theory 3 SHC AER 161 Flight-Instrument Pilot 2 SHC AER 170 Commercial Flight Theory 3 SHC AER 171 Flight-Commercial Pilot 3 SHC</p> <p>Pilot (Unmanned Aircraft Systems): UAS 110 Intro to UAS Operations 3 SHC UAS 150 UAS Flight Simulation 3 SHC UAS 152 Remote UAS Sensing and Control 3 SHC UAS 230 UAS Aerial Photo Surveys 3 SHC</p>	23 SHC	12 SHC	
<p>C. Other Major Hours. To be selected from the following prefixes:</p> <p>ACC, AER, BUS, CIS, CSC, CTS, DBA, ECM, ECO, INT, LOG, MKT, NOS, OST, PHY, UAS, and WBL</p> <p><i>Up to two semester hour credits may be selected from ACA.</i></p> <p><i>Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA.</i></p>			
<p>III. Other Required Hours <i>A college may include courses to meet graduation or local employer requirements in a certificate (0-1 SHC), diploma (0-4 SHC), or an associate in applied science (0-7 SHC) program. These curriculum courses shall be selected from the Combined Course Library and must be approved by the System Office prior to implementation. Restricted, unique, or free elective courses may not be included as other required hours.</i></p>			
<p>IV. Employability Competencies</p> <p>Fundamental competencies that address soft skills vital to employability, personal, and professional success are listed below. Colleges are encouraged to integrate these competencies into the curriculum by embedding appropriate student learning outcomes into one or more courses or through alternative methods.</p> <p>A. Interpersonal Skills and Teamwork – The ability to work effectively with others, especially to analyze situations, establish priorities, and apply resources for solving problems or accomplishing tasks.</p> <p>B. Communication – The ability to effectively exchange ideas and information with others through oral, written, or visual means.</p>			

- C. Integrity and Professionalism** – Workplace behaviors that relate to ethical standards, honesty, fairness, respect, responsibility, self-control, criticism and demeanor.
- D. Problem-solving** – The ability to identify problems and potential causes while developing and implementing practical action plans for solutions.
- E. Initiative and Dependability** – Workplace behaviors that relate to seeking out new responsibilities, establishing and meeting goals, completing tasks, following directions, complying with rules, and consistent reliability.
- F. Information processing** – The ability to acquire, evaluate, organize, manage, and interpret information.
- G. Adaptability and Lifelong Learning** – The ability to learn and apply new knowledge and skills and adapt to changing technologies, methods, processes, work environments, organizational structures and management practices.
- H. Entrepreneurship** – The knowledge and skills necessary to create opportunities and develop as an employee or self-employed business owner.

*An **Employability Skills Resource Toolkit** has been developed by NC-NET for the competencies listed above. Additional information is located at: <http://www.nc-net.info/employability.php>

**The *North Carolina Career Clusters Guide* was developed by the North Carolina Department of Public Instruction and the North Carolina Community College system to link the academic and Career and Technical Education programs at the secondary and postsecondary levels to increase student achievement. Additional information about Career Clusters is located at: http://www.nc-net.info/NC_career_clusters_guide.php or <http://www.careertech.org>.

Summary of Required Semester Hour Credits (SHC) for each credential:

	AAS	Diploma	Certificate
Minimum General Education Hours	15	6	0
Minimum Major Hours	49	30	12
Other Required Hours	0-7	0-4	0-1
Total Semester Hours Credit (SHC)	64-76	36-48	12-18