

STATE BOARD OF COMMUNITY COLLEGES
CURRICULUM STANDARD REVISION

The State Board is asked to approve revisions to the following curriculum standard:

Lenoir Community College
Aviation Management and Career Pilot Technology (A60180)

Contact Person:

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CURRICULUM STANDARD REVISION

Lenoir Community College
Aviation Management and Career Pilot Technology (A60180)

Lenoir Community College is seeking approval to revise the Aviation Management and Career Pilot Technology (A60180) curriculum standard, effective Fall 2015.

Proposed Revision:

1. In the Aviation Management and Career Pilot Technology curriculum standard core:
 - Create the following three new subject areas:
 - Aviation Management
 - Pilot (Manned)
 - (Unmanned) Pilot Aircraft Systems
 - Add newly approved UAS courses* to *(Unmanned) Pilot Aircraft Systems* Subject Area
 - Add BUS (business) course option to the *Aviation Management* Subject Area
 - Remove *AER 113 History of Aviation* from *Required Courses*

Please note, the proposed revision would result in an increase in required Technical Core hours for the AAS from 22-23 SHC.

2. Revise the curriculum description to include references to Unmanned Aircraft Systems.
3. Utilize the Career Cluster curriculum standard model.

**UAS 110 Intro to UAS Operations, UAS 150 UAS Flight Simulation, UAS 152 Remote UAS Sensing and Control, and UAS 230 UAS Aerial Photo Surveys are new courses approved by the Curriculum Review Committee at their May 27, 2015 meeting.*

Rationale: The addition of Unmanned Aircraft Systems (UAS) to Aviation Management and Career Pilot Technology is appropriate because piloting skills are fundamental to the operation of Unmanned Aircraft Systems. Newly developed UAS courses containing additional competencies unique to the UAS industry have been added to the proposed technical core of the existing program, thereby reducing program proliferation while expanding career opportunities for graduates. As these emerging technologies expand, it is of paramount importance that individuals considering engaging in UAS industries go through formal training in order to become highly competent UAS pilots who are fully cognizant of all related aviation laws and regulations required for their safe and legal operation.

Vote Results:

Colleges approved to offer the program:	4
Colleges in favor of the revision:	3
Colleges opposed to revision:	0
Colleges not responding/voting:	1

Coordinator: Frank Sculetta

Proposed

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 400.97(3)]: 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. *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> <tr> <td>*COM 101</td> <td>Workplace Communication</td> <td>3 SHC</td> <td rowspan="12">6 SHC</td> <td rowspan="12">3-6 SHC</td> <td rowspan="12">Optional</td> </tr> <tr> <td>COM 110</td> <td>Introduction to Communication</td> <td>3 SHC</td> </tr> <tr> <td>COM 120</td> <td>Intro Interpersonal Com</td> <td>3 SHC</td> </tr> <tr> <td>COM 231</td> <td>Public Speaking</td> <td>3 SHC</td> </tr> <tr> <td>*ENG 101</td> <td>Applied Communications I</td> <td>3 SHC</td> </tr> <tr> <td>*ENG 102</td> <td>Applied Communications II</td> <td>3 SHC</td> </tr> <tr> <td>ENG 110</td> <td>Freshman Composition</td> <td>3 SHC</td> </tr> <tr> <td>ENG 111</td> <td>Writing and Inquiry</td> <td>3 SHC</td> </tr> <tr> <td>ENG 114</td> <td>Professional Research & Reporting</td> <td>3 SHC</td> </tr> <tr> <td>ENG 116</td> <td>Technical Report Writing</td> <td>3 SHC</td> </tr> </table>	*COM 101	Workplace Communication	3 SHC	6 SHC	3-6 SHC	Optional	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	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			
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ENG 116	Technical Report Writing	3 SHC																																		

Proposed

Humanities/Fine Arts:						
*HUM	101	Values in the Workplace	2 SHC			
HUM	110	Technology and Society	3 SHC			
HUM	115	Critical Thinking	3 SHC	3 SHC	0-3 SHC	Optional
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			
ECO	251	Prin of Microeconomics	3 SHC			
GEO	110	Introduction to Geography	3 SHC	3 SHC	0-3 SHC	Optional
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			
MAT	121	Algebra/Trigonometry I	3 SHC			
MAT	143	Quantitative Literacy	3 SHC			
MAT	152	Statistical Methods I	3 SHC	3 SHC	0-3 SHC	Optional
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.

Proposed

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 <i>And</i> 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>	22 SHC 23 SHC	12 SHC	
<p>C. Other Major Hours. To be selected from the following prefixes: ACC, AER, BUS, CIS, CSC, CTS, DBA, ECM, ECO, INT, LOG, MKT, NOS, OST, PHY, UAS, and WBL</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>			

Proposed

- 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

Curriculum Program Title	Aviation Management and Career Pilot Technology	Code	A60180
Concentration			<i>CIP Code: 49.0102</i>

Curriculum 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, and state and federal aviation organizations.

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

Graduates will hold a commercial pilot certificate with an instrument rating or specialize in aviation management. Graduates may find employment as commercial, corporate, and military pilots, fixed base operators and airport managers, flight instructors, and flight dispatchers.

Curriculum Requirements*

[for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.97 (3)]

- I. General Education.** 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.
- 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. *(See second page for additional information.)*
- III. Other Required Hours.** A college may include courses to meet graduation or local employer requirements in a certificate, diploma, or associate in applied science 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.

	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

**Within the degree program, the institution shall include opportunities for the achievement of competence in reading, writing, oral communication, fundamental mathematical skills, and basic use of computers.*

Current

Major Hours

[ref. 1D SBCCC 400.97 (3)]

- A. Core.** The subject/course core is comprised of subject areas and/or specific courses which are required for each curriculum program. 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 subject/course core of the AAS program.
- B. Concentration** (if applicable). A concentration of study must include a minimum of 12 semester hours credit from required subjects and/or courses. The majority of the course credit hours are unique to the concentration. The required subjects and/or courses that make up the concentration of study are in addition to the required subject/course 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 or concentration. 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.

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	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE <i>A diploma offered under this AAS degree requires a minimum of 12 SHC extracted from the required subject/course core of the AAS degree.</i> Required Courses: AER 110 Air Navigation 3 SHC AER 111 Aviation Meteorology 3 SHC AER 112 Aviation Laws and FARs 2 SHC AER 113 History of Aviation 2 SHC AER 114 Aviation Management 3 SHC AER 150 Private Flight Theory 3 SHC AER 160 Instrument Flight Theory 3 SHC AER 170 Commercial Flight Theory 3 SHC Required Subject Areas: None	22 SHC	12 SHC	
B. CONCENTRATION (Not applicable)			
C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i> ACC, AER, BUS, CIS, CSC, CTS, DBA, ECM, ECO, INT, LOG, MKT, NOS, OST, PHY, and WBL <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>			

STATE BOARD OF COMMUNITY COLLEGES

NEW CURRICULUM PREFIX -
TIERED FUNDING FORMULA RECOMMENDATIONS

On May 27, 2015, the Curriculum Review Committee approved six new courses under a new curriculum course prefix. The State Board of Community Colleges is asked to assign the following new curriculum prefix to the North Carolina Community College System Tiered Funding Formula:

Tier 1A

UAS – Unmanned Aircraft Systems

Rationale: Content includes the use of high cost aviation simulation equipment and aligns with Governor McCrory's Executive Order Number 54 by supporting the continued promotion and development of the aviation industry in North Carolina.

Background:

On August 15, 2014, the State Board of Community Colleges adopted the 2014-2015 State Aid Allocations and Budget Policies, which included the implementation of a four-tiered funding model. To implement the Tiered Funding Forming Model, all existing curriculum and continuing education course prefixes were assigned to one of four funding levels as defined below:

Tier 1A: Includes curriculum budget FTE in health care and technical education courses that train North Carolinians for immediate employment in priority occupations that have documented skills gaps and pay higher wages. This tier also includes FTE in a limited number of continuing education courses that train students for the exact same third-party certification as curriculum courses in Tier 1A.

Tier 1B: Includes curriculum budget FTE in other high cost areas of health care, technical education, lab-based science, and college-level math courses. With the implementation of Closing the Skills Gap, Tier 1B also includes FTE in short-term, workforce continuing education courses that help prepare students for jobs in priority occupations and lead to competency-based industry credentials.

Tier 2: Includes

- a) all other curriculum budget FTE,
- b) all Basic Skills budget FTE, and
- c) budget FTE associated with other continuing education courses that are scheduled for 96 hours or more and are mapped to a third-party credential, certification, or industry-designed curriculum.

Tier 3: Includes all other continuing education budget FTE. This weighted allocation model is designed to provide a funding differential between each tier. Tier 1A is funded at a level equal to 30% higher than Tier 2, while Tier 1B is funded at a level that is 15% higher than Tier 2. Tier 3 is funded at a rate that is 15% less than Tier 2.

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