



**NORTH CAROLINA COMMUNITY COLLEGE SYSTEM**  
*Dr. R. Scott Ralls, President*

February 24, 2010

**MEMORANDUM**

TO: Presidents  
Chief Academic Officers

FROM: Dr. Judith C. Mann  
Associate Vice President  
Academic and Student Services

SUBJECT: State Board Action on February 19, 2010  
Curriculum Standard Revision

On February 19, 2010, the State Board of Community Colleges approved the requested revision to the following curriculum standard:

Environmental Science Technology (A20140)

Please note that the only revision to this curriculum standard was the addition of the following three course prefixes to the Other Major Hours area:

ALT (Alternative Energy Technology)  
LID (Low Impact Development)  
SST (Sustainability Technologies)

The revised standard is attached for your convenience. You may view all curriculum standards by visiting the Programs website at:

[http://www.nccommunitycolleges.edu/Programs/curriculum\\_standards.htm](http://www.nccommunitycolleges.edu/Programs/curriculum_standards.htm)

If you have any questions concerning the State Board action item, please contact Dr. Judith C. Mann at 919-807-7108 or [mannj@nccommunitycolleges.edu](mailto:mannj@nccommunitycolleges.edu).

JCM/JF/swj  
Attachment

c: Dr. Sandra W. Williams  
Dr. John Pettitt  
Ms. Jennifer Frazelle  
Program Coordinators

CC010-009  
Email

# CURRICULUM STANDARD

Effective Term  
Fall 2002  
[2002\*03]

Curriculum Program Title

**Environmental Science Technology**

Code

**A20140**

Concentration

**(not applicable)**

## *Curriculum Description*

The Environmental Science Technology curriculum is designed to prepare individuals for employment in environmental testing/consulting and related industries. Major emphasis is placed on biological and chemical evaluation of man's impact on his environment.

Course work includes general education, computer applications, biology, chemistry, industrial safety, and an extensive array of detailed environmentally specific classes.

Graduates should qualify for numerous positions within the industry. Employment opportunities include, but are not limited to, the following: Chemical Analysis, Biological Analysis, Water/Wastewater Treatment, EPA Compliance Inspection, Hazardous Material Handling, Waste Abatement/Removal, and Contaminated Site Assessment/Remediation.

## *Curriculum Requirements\**

*[for associate degree, diploma, and certificate programs in accordance with 23 NCAC 02E.0204 (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 experience, including cooperative education, practicums, and internships, 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.

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

*\*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.*

## Major Hours

[ref. 23 NCAC 02E.0204 (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 experience, including cooperative education, practicums, and internships, 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.

### Environmental Science Technology A20140

	AAS	Diploma	Certificate																																																							
<b>Minimum Major Hours Required</b>	<b>49 SHC</b>	<b>30 SHC</b>	<b>12 SHC</b>																																																							
<p><b>A. CORE</b>  <i>Courses required for the diploma are designated with *</i></p> <p><b>Required Courses:</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">*</td> <td style="width: 10%;">BIO</td> <td style="width: 10%;">111</td> <td style="width: 50%;">General Biology I</td> <td style="width: 15%; text-align: right;">4 SHC</td> </tr> <tr> <td>*</td> <td>CHM</td> <td>131</td> <td>Introduction to Chemistry</td> <td style="text-align: right;">3 SHC</td> </tr> <tr> <td>*</td> <td>CHM</td> <td>131A</td> <td>Introduction to Chemistry Lab</td> <td style="text-align: right;">1 SHC</td> </tr> <tr> <td>*</td> <td>ENV</td> <td>218</td> <td>Environmental Health</td> <td style="text-align: right;">3 SHC</td> </tr> </table> <p><b>Required Subject Areas:</b></p> <p><b>Science. Select one sequence.</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">*</td> <td style="width: 10%;">BIO</td> <td style="width: 10%;">140</td> <td style="width: 50%;">Environmental Biology</td> <td style="width: 15%; text-align: right;">3 SHC</td> </tr> <tr> <td>*</td> <td>BIO</td> <td>140A</td> <td>Environmental Biology Lab</td> <td style="text-align: right;">1 SHC</td> </tr> <tr> <td colspan="5" style="text-align: center;"><i>or</i></td> </tr> <tr> <td>*</td> <td>ENV</td> <td>110</td> <td>Environmental Science</td> <td style="text-align: right;">3 SHC</td> </tr> </table> <p><b>Safety. Select one.</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">*</td> <td style="width: 10%;">ISC</td> <td style="width: 10%;">112</td> <td style="width: 50%;">Industrial Safety</td> <td style="width: 15%; text-align: right;">2 SHC</td> </tr> <tr> <td>*</td> <td>ISC</td> <td>121</td> <td>Envir Health &amp; Safety</td> <td style="text-align: right;">3 SHC</td> </tr> <tr> <td>*</td> <td>EHS</td> <td>114</td> <td>OSHA Regulations</td> <td style="text-align: right;">4 SHC</td> </tr> </table>	*	BIO	111	General Biology I	4 SHC	*	CHM	131	Introduction to Chemistry	3 SHC	*	CHM	131A	Introduction to Chemistry Lab	1 SHC	*	ENV	218	Environmental Health	3 SHC	*	BIO	140	Environmental Biology	3 SHC	*	BIO	140A	Environmental Biology Lab	1 SHC	<i>or</i>					*	ENV	110	Environmental Science	3 SHC	*	ISC	112	Industrial Safety	2 SHC	*	ISC	121	Envir Health & Safety	3 SHC	*	EHS	114	OSHA Regulations	4 SHC	<b>16-19 SHC</b>	<b>16-19 SHC</b>	
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<p><b>C. OTHER MAJOR HOURS</b>  <i>To be selected from the following prefixes:</i></p> <p>ALT, BIO, BUS, CHM, CIS, CIV, COE, CSC, CTS, EHS, ENV, FOR, GIS, ISC, LID, MSC, PHS, SST, and WAT</p> <p><i>Foreign language courses (including ASL) that are not designated as approved other major hours may be included in all programs up to a maximum of 3 semester hours of credit.</i></p>																																																										