

CURRICULUM STANDARD

Effective Term
Fall 2002
[2002*03]

Curriculum Program Title

Environmental Science Technology

Code

A2014A

Concentration

Water Resources Management

Curriculum Description

Water Resources Management is a concentration under the curriculum title of Environmental Science Technology. This curriculum prepares individuals for employment in the areas of water purification, wastewater treatment, and the treatment of industrial wastes.

Course work includes theory and practice of water and wastewater treatment, environmental regulations, laboratory procedures, and operations. Additional training is provided in computer operations, management, and budgeting.

Graduates should qualify for certification as water plant operators, wastewater plant operators, industrial waste treatment system operators, or laboratory analysts. Experienced graduates should qualify as managers and supervisors of environmental treatment systems.

*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.

	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.*

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.

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	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE <i>Courses required for the diploma are designated with *</i> Required Courses: * 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 Required Subject Areas: Science. Select one sequence. * BIO 140 Environmental Biology 3 SHC * BIO 140A Environmental Biology Lab 1 SHC <i>or</i> * ENV 110 Environmental Science 3 SHC Safety. Select one. * ISC 112 Industrial Safety 2 SHC * ISC 121 Envir Health & Safety 3 SHC * EHS 114 OSHA Regulations 4 SHC	16-19 SHC	16-19 SHC	
B. CONCENTRATION <i>Courses unique to the concentration are designated with **</i> ** WAT 112 Intermediate Waste Trmt 3 SHC ** WAT 113 Advanced Waste Trmt 3 SHC ** WAT 121 Inter Water Trmt 2 SHC ** WAT 122 Advanced Water Trmt 2 SHC WAT 162 Industrial Waste Trmt 2 SHC WAT 165 Applied Hydraulics 2 SHC	14 SHC	14 SHC	

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<p>C. OTHER MAJOR HOURS</p> <p><i>To be selected from the following prefixes:</i></p> <p>BIO, BUS, CHM, CIS, CIV, COE, CSC, CTS, DFT, ELC, EHS, ENV, FOR, GIS, ISC, MAT, MEC, MNT, MSC, PHS, SRV, 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>			
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