

CURRICULUM STANDARD

<i>Effective Term</i> Fall 2017 2017*03

Curriculum Program Title	Chemical Technology	Program Code	A20120
Concentration	(not applicable)	CIP Code	41.0301

Curriculum Description

The Chemical Technology curriculum prepares individuals for work as analytical technicians in chemical laboratories associated with chemical production, environmental concerns, pharmaceuticals, or general analysis.

Course work includes general chemistry, organic chemistry, introductory chemical engineering, qualitative analysis, and quantitative analysis, including such instrumental techniques as spectroscopy (UV-Vis, IR, AA) and chromatography (GC, LC). Students also utilize computerized data collection, reduction, and graphic presentation.

Graduates should qualify as entry-level chemical laboratory technicians. Their duties may include chemical solution preparation; raw material, product, or environmental sampling; and/or sample testing via wet chemistry or instrumental techniques.

Curriculum Requirements*

[for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.10]

- 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.*

Major Hours

- 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.

Chemical Technology A20120

	AAS	Diploma	Certificate																																								
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC																																								
<p>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></p> <p>Required Courses:</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">CTC</td><td style="width: 10%;">110</td><td style="width: 70%;">Chemical Safety & Technology</td><td style="width: 10%;">2 SHC</td></tr> <tr><td>CTC</td><td>114</td><td>Wet Laboratory Techniques</td><td>5 SHC</td></tr> <tr><td>CTC</td><td>115</td><td>Quality Control Laboratory</td><td>5 SHC</td></tr> <tr><td>CTC</td><td>145</td><td>Advanced Laboratory Methods</td><td>6 SHC</td></tr> <tr><td>CTC</td><td>150</td><td>Standards & Solutions</td><td>2 SHC</td></tr> <tr><td>CTC</td><td>210</td><td>Forensic Laboratory</td><td>2 SHC</td></tr> <tr><td>CTC</td><td>235</td><td>Food Chemistry</td><td>2 SHC</td></tr> <tr><td>CTC</td><td>240</td><td>Instru I: Spectroscopy</td><td>6 SHC</td></tr> <tr><td>CTC</td><td>250</td><td>Instru II: Chromatography</td><td>6 SHC</td></tr> <tr><td>CTC</td><td>260</td><td>Chemical Technology Capstone</td><td>2 SHC</td></tr> </table> <p>Required Subject Areas: None</p>	CTC	110	Chemical Safety & Technology	2 SHC	CTC	114	Wet Laboratory Techniques	5 SHC	CTC	115	Quality Control Laboratory	5 SHC	CTC	145	Advanced Laboratory Methods	6 SHC	CTC	150	Standards & Solutions	2 SHC	CTC	210	Forensic Laboratory	2 SHC	CTC	235	Food Chemistry	2 SHC	CTC	240	Instru I: Spectroscopy	6 SHC	CTC	250	Instru II: Chromatography	6 SHC	CTC	260	Chemical Technology Capstone	2 SHC	38 SHC	12 SHC	
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<p>C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i></p> <p>BIO, CHM, CIS, CSC, CTC, CTS, HEA, ISC, MSC, PHY, SST 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>																																											