CURRICULUM STANDARD

Curriculum Program Title	**Bioprocess Technology**	Program Code **A50440**
Concentration	**(not applicable)**	CIP Code ***15.0613***

Curriculum Description

The Bioprocess Technology curriculum is designed to prepare individuals to work as Process Operators in biological products manufacturing facilities. Students will combine basic science and communication skills, manufacturing technologies, and good manufacturing practices in the course of study.

Students will be expected to develop a strong basic science foundation with a sound understanding of the major technologies employed in the industry. They will also be expected to develop collaborative and disciplined work ethics while consistently practicing problem-solving skills.

Upon successful completion of the program, individuals should possess the necessary skills to qualify for employment in a variety of Bioprocessing industries.

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*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**

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*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.

Bioprocess Technology A50440			
	AAS	Diploma	Certificate
Minimum Major Hours Required	**49 SHC**	**30 SHC**	**12 SHC**
A. **CORE** *Courses required for the diploma are designated with ** **Required Courses:** BIO 110 Principles of Biology 4 SHC * BPM 110 Bioprocess Practices 5 SHC * BPM 111 Bioprocess Measurements 4 SHC * BPM 112 Upstream Processing 5 SHC * BPM 113 Downstream Bioprocessing 4 SHC * PTC 110 Industrial Environment 3 SHC	**25 SHC**	**21 SHC**	
B. **CONCENTRATION** *(Not applicable)*			
C. **OTHER MAJOR HOURS** *To be selected from the following prefixes:* ATR, BIO, BPM, BPR, BTC, BUS, CHM, CIS, CSC, EGR, ELC, ELN, HYD, ISC, MNT, OMT, PCI, PHY, PTC, and WBL *Up to two semester hour credits may be selected from ACA.* *Three semester hour credits may be selected from PTE.* *Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, ATR, CHI, FRE, GER, IRI, ITA, JPN, LAT, POR, RUS, and SPA.*			