

BACHELOR OF APPLIED ARTS AND SCIENCES: BIOTECHNOLOGY CONCENTRATION

| Code | Title | Hours |
|--|--|------------|
| Requirements | | |
| General Education Requirements (Core Curriculum/Degree Specific Requirements) ¹ | | 42 |
| Major (A.A.S. degree - in-block transfer courses) ¹ | | 36 |
| Concentration: Biotechnology | | |
| BIOL 2440 | Introductory Cell Biology | 4 |
| BIOL 3450 | Introductory Genetics | 4 |
| BIOL 3470 | General Microbiology | 4 |
| BIOL 4110 | Undergraduate Seminar | 1 |
| or BIOL 4111 | Undergraduate Seminar | |
| BIOL 4381 | Advanced Molecular Biology | 3 |
| BIOL 4480 | Molecular Genetics | 4 |
| CHEM 1411 | General Chemistry I ² | 4 |
| CHEM 1412 | General Chemistry II ² | 4 |
| CHEM 2323 & CHEM 2123 | Organic Chemistry I: Lecture and Organic Chemistry I: Lab | 4 |
| Advanced BIOL Electives ³ | | 20 |
| Total Hours | | 122 |

¹ A maximum of 66 semester credit hours are transferable. Additional hours may be needed to meet the total 122 SCH requirement. Students may transfer up to 36 SCH of WECM coursework from their A.A.S. degree. For more detailed information concerning General Education, Major, requirements, and transferable courses, please contact the Sam Center.

² CHEM 1411 and CHEM 1412 satisfy the Core Curriculum requirement for Component Area III (Life and Physical Science).

³ Select five courses from the Advanced BIOL Electives course list below.

Notes

Students must earn a 2.0 minimum overall GPA in all coursework.

Students must meet a 2.0 minimum overall major GPA in all major coursework.

Students must earn a 2.0 minimum SHSU GPA in all coursework.

Students must meet a 2.0 minimum SHSU major GPA in all major coursework.

| Code | Title | Hours |
|---|--|-------|
| Advanced BIOL Electives ³ | | |
| Select five courses from the following: | | |
| BIOL 3410 | Human Biology | 4 |
| BIOL 3420 | Comparative Vertebrate Anatomy | 4 |
| BIOL 3440 | General Physiology | 4 |
| BIOL 3460 | Pathophysiology | 4 |
| BIOL 3480 | Developmental Biology | 4 |
| BIOL 3490 | Histology | 4 |
| BIOL 4095 | Undergraduate Research Topics in Biology | 4 |
| BIOL 4096 | Special Topics In Undergraduate Biology | 4 |
| BIOL 4460 | Parasitology | 4 |
| BIOL 4490 | Cell Biology | 4 |
| BIOL 4493 | Endocrinology | 4 |

First Year

| Fall | Hours | Spring | Hours |
|--|--------------|---|--------------|
| Core Curriculum and/or Major (A.A.S. degree in-block transferred courses) ¹ | | 15 Core Curriculum and/or Major (A.A.S. degree in-block transferred courses) ¹ | 15 |
| | | 15 | 15 |

Second Year

| Fall | Hours | Spring | Hours |
|--|--------------|---|--------------|
| Core Curriculum and/or Major (A.A.S. degree in-block transferred courses) ¹ | | 18 Core Curriculum and/or Major (A.A.S. degree in-block transferred courses) ¹ | 18 |
| | | 18 | 18 |

Third Year

| Fall | Hours | Spring | Hours |
|--------------------------------------|--------------|--|--------------|
| Advanced BIOL Electives ² | | 4 Advanced BIOL Electives ² | 4 |
| BIOL 2440 | | 4 BIOL 3450 | 4 |
| CHEM 1411 ³ | | 4 BIOL 3470 | 4 |
| General Education (As needed) | | 4 CHEM 1412 ³ | 4 |
| | | 16 | 16 |

Fourth Year

| Fall | Hours | Spring | Hours |
|--------------------------------------|--------------|--|--------------|
| Advanced BIOL Electives ² | | 4 Advanced BIOL Electives ² | 8 |
| BIOL 4110 or 4111 | | 1 BIOL 4480 | 4 |
| BIOL 4381 | | 3 | |
| CHEM 2323 & CHEM 2123 | | 4 | |
| | | 12 | 12 |

Total Hours: 122

¹ A maximum of 66 semester credit hours are transferable. Additional hours may be needed to meet the total 122 SCH requirement. Students may transfer up to 36 SCH of WECM coursework from their A.A.S. degree. For more detailed information concerning General Education, Major requirements, and transferable courses, please contact the Sam Center.

² Select five courses from the Advanced BIOL Electives course list below.

³ Satisfies the Core Curriculum requirement for Component Area III (Life and Physical Science).

Notes

Students must earn a 2.0 minimum overall GPA in all coursework.

Students must meet a 2.0 minimum overall major GPA in all major coursework.

Students must earn a 2.0 minimum SHSU GPA in all coursework.

Students must meet a 2.0 minimum SHSU major GPA in all major coursework.

| Code | Title | Hours |
|--|--|--------------|
| Advanced BIOL Electives² | | |
| Select five courses from the following: | | |
| BIOL 3410 | Human Biology | 4 |
| BIOL 3420 | Comparative Vertebrate Anatomy | 4 |
| BIOL 3440 | General Physiology | 4 |
| BIOL 3460 | Pathophysiology | 4 |
| BIOL 3480 | Developmental Biology | 4 |
| BIOL 3490 | Histology | 4 |
| BIOL 4095 | Undergraduate Research Topics in Biology | 4 |
| BIOL 4096 | Special Topics In Undergraduate Biology | 4 |
| BIOL 4460 | Parasitology | 4 |

| | | |
|-----------|---------------|---|
| BIOL 4490 | Cell Biology | 4 |
| BIOL 4493 | Endocrinology | 4 |

The Texas Higher Education Coordinating Board (THECB) marketable skills initiative is part of the state's **60x30TX plan** and was designed to help students articulate their skills to employers. Marketable skills are those skills valued by employers and/or graduate programs that can be applied in a variety of work or education settings and may include interpersonal, cognitive, and applied skill areas.

The BAAS: Biotechnology Concentration is designed to provide graduates with the following marketable skills:

- Master the depth of knowledge required for a degree in biotechnology.
- Demonstrate critical thinking.
- Communicate effectively.
- Work collaboratively.