# BACHELOR OF SCIENCE, MAJOR IN AGRICULTURAL ENGINEERING TECHNOLOGY

The purpose of the Agricultural Engineering Technology curriculum is to provide an educational experience based on the fundamentals of engineering principles and practices. Theory-based lectures will be accompanied by experiential learning activities for persons who intend to pursue a career related to the technical operation and management of an agriculture enterprise. It is expected that graduates will choose a position of leadership and responsibility in a career area associated with service and sales, production, processing, product testing, alternative energies, or a government agency.

Agricultural Engineering Technology majors are required to complete the concentration in Power Machinery Management, a minor area of study or complete the Teacher Certification focus in Agricultural Education. Common minors are Agricultural Business, Plant and Soil Science, and Construction Management.

An internship in an agricultural engineering technology-related business or industry is strongly encouraged for each student. This will provide students 'real-life' learning experiences outside their regular classroom and laboratory opportunities. Students generally seek an internship experience at the end of their sophomore or junior year. Internships may be arranged through a student's contact with providers or through departmental announcements or postings. All internships must be approved by the student's departmental academic adviser prior to the initiation of the internship. Maximum credit for the internships is six (6) credit hours.

**Additional information**: Reference the Program Landing Page (https://www.shsu.edu/programs/bachelor-of-science-in-agricultural-engineering-technology/) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

| Code | Title | Hours |
|---|---|---|
| **Bachelor of Science, Major in Agricultural Engineering Technology** | | |
| **Core Curriculum (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/)** | | |
| Component Area I (Communication) | | 6 |
| Component Area II (Mathematics) [1] | | 3 |
| Component Area III (Life and Physical Science) [2] | | 8 |
| Component Area IV (Language, Philosophy, and Culture) | | 3 |
| Component Area V (Creative Arts) | | 3 |
| Component Area VI (U.S. History) | | 6 |
| Component Area VII (Political Science/Government) | | 6 |
| Component Area VIII (Social and Behavioral Sciences) | | 3 |
| Component Area IX (Component Area Option) [3] | | 4 |
| **Degree Specific Requirements** | | |
| ACCT 2301 | Principles of Financial Accounting | 3 |
| ACOM 3360 | Communication Skills for Agriculturists | 3 |
| or ENGL 3330 | Introduction to Technical Writing | |
| ETDD 1361 | Engineering Graphics | 3 |
| or ETDD 1390 | Introduction to Computer Aided Drafting | |
| or AGET 3350 | Plasma Arc Cutting Technology | |
| MATH 1314 | Pre Calculus Algebra [1] | 3 |
| MATH 1342 | Elementary Statistics | 3 |
| MGMT 3310 | Principles Of Management (or approved BUAD, AGBU [advanced]) | 3 |
| PHYS 1401 | Physics Boot Camp [2] | 4 |
| **Major: Foundation** | | |
| AGBU 2317 | Principles of Agricultural Economics [4] | 3 |
| or AGBU 2389 | Agribusiness Financial Analysis | |
| AGET 2303 | Introduction to Agricultural Engineering Technology | 3 |
| AGET 3300 | Agricultural Electrification | 3 |
| or AGET 3386 | Agricultural Structures and Environmental Control Systems | |
| AGET 3380 | Agricultural Machinery | 3 |
| AGET 3383 | Soil & Water Conservation Engineering | 3 |
| or AGET 4390 | Turf & Cropland Irrigation & Drainage | |
| AGET 4381 | Advanced Metal Fabrication in Agriculture | 3 |

| | | |
|---|---|---|
| AGRI 1309 | Computers in Agriculture [4] | 3 |
| or CSTE 1330 | Introduction to Computers | |
| or AGBU 2389 | Agribusiness Financial Analysis | |
| AGRI 4371 | Agricultural Safety & Health | 3 |
| UNIV 1101 | Bearkat U [3] | 1 |
| **Major: Prescribed Electives** | | |
| Select one from the following: | | 4 |
| ANSC 1319<br>& ANSC 1119 | Animal Science<br>and Animal Science Laboratory | |
| PLSC 1307<br>& PLSC 1107 | Plant Science<br>and Plant Science Laboratory | |
| Advanced AGET Electives: including internship hours [5] | | 11-17 |
| **Minor or Concentration: Required [6, 7]** | | **18-24** |
| Minor (18 SCH) [6, 7] | | |
| Concentration: Power Machinery Management (24 SCH) [6] | | |
| AGBU 3361 | Agribusiness Organization & Management | |
| AGBU 3367 | Agricultural Finance | |
| AGET 4372 | Agriculture and Construction Equipment Technology | |
| AGET 4385 | Applied Electronics/Hydraulics | |
| AGET 4387 | Agricultural Engines & Tractors | |
| ETEC 3374 | Time And Motion Study | |
| Concentration Electives (Select 6 advanced hours from: ACCT, AGBU, BUAD, FINC, or MKTG) | | |
| **Total Hours** | | **120** |

1 MATH 1314 satisfies the Core Curriculum requirement for Component Area II (Mathematics) and the Degree Specific Requirement.
2 PHYS 1401 satisfies the Core Curriculum requirement for Component Area III (Life and Physical Science) and the Degree Specific Requirement.
3 UNIV 1101 satisfies the Core Curriculum requirement for Component Area IX (Component Area Option) and the Degree Specific Requirement.
4 Students seeking a Concentration in Power Machinery Management must select AGBU 2389.
5 Students pursuing a **Minor take 17 semester credit hours** of approved Agricultural Engineering Technology advanced electives, including internship hours. Students pursuing a **Concentration in Power Machinery Management take 11 semester credit hours** of approved Agricultural Engineering Technology advanced electives, including internship hours.
6 Students have the option of either: (1) pursuing a **Minor with 18 semester credit hours** of coursework or (2) pursuing a **Concentration in Power Machinery Management with 24 semester credit hours** of coursework.
7 The following minors **cannot be paired** with this degree program: Minor in Agriculture Engineering Technology, Minor in Conservation Biology, Minor in Early Childhood Education, and Minor in Wildlife Ecology.

**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.

Students should use elective and/or minor hours to satisfy the 42 advanced hour requirement.

**Additional information**: Reference the Program Landing Page (https://www.shsu.edu/programs/bachelor-of-science-in-agricultural-engineering-technology/) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

**First Year**

| Fall | Hours | Spring | Hours |
|---|---|---|---|
| Component Area I (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareai)[1] | 3 | Component Area I (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareai)[1] | 3 |

| | | | |
|---|---|---|---|
| AGET 2303 | 3 | Component Area III (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaiii)[5] | 4 |
| AGRI 1309, CSTE 1330, or AGBU 2389[2] | 3 | Component Area VI (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareavi)[6] | 3 |
| MATH 1314[3] | 3 | Component Area VII (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareavii)[7] | 3 |
| UNIV 1101[4] | 1 | Select either Animal or Plant Science: | 4 |
| | | ANSC 1319<br>& ANSC 1119 | |
| | | PLSC 1307<br>& PLSC 1107 | |
| | **13** | | **17** |

**Second Year**

| Fall | Hours | Spring | Hours |
|---|---|---|---|
| Component Area VI (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareavi)[6] | 3 | Component Area IV (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaiv) | 3 |
| Component Area VII (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareavii)[7] | 3 | Component Area V (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareav) | 3 |
| AGBU 2317 or 2389[2] | 3 | ACCT 2301 | 3 |
| MATH 1342 | 3 | ETDD 1361, 1390, or AGET 3350 | 3 |
| Minor OR Concentration [8, 9, 10] | 3 | PHYS 1401[5] | 4 |
| | **15** | | **16** |

**Third Year**

| Fall | Hours | Spring | Hours |
|---|---|---|---|
| Component Area VIII (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaviii) | 3 | Advanced Electives OR Minor Advanced OR Concentration [8, 9, 10, 11] | 9 |
| Component Area IX (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaix) | 3 | AGET 3300 or 3386 | 3 |
| Advanced Electives[11] | 5 | MGMT 3310 | 3 |
| AGET 3380 | 3 | | |
| | **14** | | **15** |

**Fourth Year**

| Fall | Hours | Spring | Hours |
|---|---|---|---|
| ACOM 3360 or ENGL 3330 | 3 | Advanced Electives[11] | 3 |
| Advanced Electives OR Minor Advanced OR Concentration[8, 9, 10, 11] | 9 | AGET 3383 or 4390 | 3 |
| AGET 4381 | 3 | AGRI 4371 | 3 |
| | | Minor Advanced OR Concentration [8, 9, 10] | 6 |
| | **15** | | **15** |

**Total Hours: 120**

[1] ENGL 1301 and ENGL 1302 satisfy the Core Curriculum requirement for Component Area I (Communication).

[2] Students seeking a Concentration in Power Machinery Management must take AGBU 2389.
[3] MATH 1314 satisfies the Core Curriculum requirement for Component Area II (Mathematics) and the Degree Specific Requirement.
[4] UNIV 1101 satisfies the Core Curriculum requirement for Component Area IX (Component Area Option) and the Degree Specific Requirement.
[5] PHYS 1401 satisfies the Core Curriculum requirement for Component Area III (Life and Physical Science).
[6] HSTY 1301 and HSTY 1302 satisfy the Core Curriculum requirement for Component Area VI (U.S. History).
[7] POLS 2305 and POLS 2306 satisfy the Core Curriculum requirement for Component Area VII (Political Science/Government).
[8] Students have the option of either: (1) pursuing a **Minor with 18 semester credit hours** of coursework or (2) pursuing a **Concentration in Power Machinery Management with 24 semester credit hours** of coursework.
[9] The following minors **cannot be paired** with this degree program: Minor in Agriculture Engineering Technology, Minor in Conservation Biology, Minor in Early Childhood Education, and Minor in Wildlife Ecology.
[10] See the course list for Concentration in Power Machinery Management below.
[11] Students pursuing a **Minor take 17 semester credit hours** of approved Agricultural Engineering Technology advanced electives, including internship hours. Students pursuing a **Concentration in Power Machinery Management take 11 semester credit hours** of approved Agricultural Engineering Technology advanced electives, including internship hours.

| Code | Title | Hours |
|---|---|---|
| **Power Machinery Management Concentration Courses** [10] | | |
| AGBU 3361 | Agribusiness Organization & Management | 3 |
| AGBU 3367 | Agricultural Finance | 3 |
| AGET 4372 | Agriculture and Construction Equipment Technology | 3 |
| AGET 4385 | Applied Electronics/Hydraulics | 3 |
| AGET 4387 | Agricultural Engines & Tractors | 3 |
| ETEC 3374 | Time And Motion Study | 3 |

**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.

Students should use elective and/or minor hours to satisfy the 42 advanced hour requirement.

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 BS in Agricultural Engineering Technology is designed to provide graduates with the following marketable skills:

- Understand the importance and use of technology found in agriculture and related industries for real-world problem solving.
- Evaluate how technology has changed in our society and how those technologies are utilized in modern agriculture and related industries.
- Analyze engineering issues found within agriculture and/or other related industries, and the technological solutions to those problems.
- Apply independent and team-working skills to accomplish objectives and meet organizational goals.
- Demonstrate a work ethic and soft skills that are desirable of an employee.
- Use professional oral and written communication skills for the transfer of technologically-rich knowledge.