

**Associate of Applied Science
in
General Technology
(Emphasis in Renewable Energy Technology)**

“ASUN: It’s Closer Than You Think”



General Education Requirements:

Courses	Credit Hours
ENG 1003 Freshman English I.....	3
ENG 1013 Freshman English II.....	3
MATH 1003 Intermediate Algebra (or higher).....	3
MIS 1033 Introduction to Computers.....	3
PSY 1013 Human Relations.....	3
OR	
PSY 2013 Introduction to Psychology.....	3

Support Area Curriculum:

PSSC 1303 Introduction to Plant Science.....	3
PSSC 2803 Field Crops.....	3
RET 1804 Internship.....	4
RET 1713 Safety.....	3
TEC 1753 Basic Mechanics.....	3
TEC 1764 Basic Electricity I.....	4
Approved elective.....	3

Major Tech Discipline:

BOT 1101 Biology of Plants Lab.....	1
AND	
BOT 1103 Biology of Plants	3
OR	
RET 1114 Biomass and Feedstocks.....	4
CHEM 1011 General Chemistry I Lab.....	1
CHEM 1013 General Chemistry.....	3
RET 1003 Intro to Renewable Energy Tech.....	3
RET 1013 Biofuels.....	3
RET 1024 Process Instrumentation.....	4
RET 1035 Bioprocess Practices and Lab.....	5

Minimum Required Credit Hours (61)



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“A Great Place to Start!”

**Associate
of
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General Technology
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Renewable Energy
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Associate of Applied Science in General Technology (Emphasis in Renewable Energy Technology)

This program is being offered through an Arkansas Delta Technical Education Consortium (ADTEC) grant from the Department of Labor.

The Department of Labor is anticipating “green” jobs to be among the fastest growing segment in the next 10-15 years. A degree in Renewable Energy Technology will open up opportunities in this field. Career choices that a degree in Renewable Energy Technology may help you enter include:

- Biofuels Technician
- Biofuels Analyst
- Biofuels Operator
- Wind Turbine Technician
- Wind Blade Technician
- Wind Turbine Analyst

Course Descriptions

CHEM 1013 - General Chemistry I

A detailed study of fundamental principles of chemistry. This is the first of a series of courses intended for science majors. A separately scheduled lab is required. Prerequisite: Survey of Chemistry or High School Chemistry or permission. Corequisite: College Algebra or permission.

BOT 1103 - Biology of Plants

A detailed study of the form, structure, function, and reproduction of plants. A separately scheduled lab is required.

PSSC 1303 - Introduction to Plant Science

An introduction to basics of agricultural crop plant structure, growth, and production.

PSSC 2803 - Field Crops

Principles of crop growth, development, and utilization and how these principles relate to

production. Emphasis on major agronomic crop species. Prerequisite: Introduction to Plant Science

RET 1003 - Introduction to Renewable Energy Technology

This course introduces the concepts, methodologies, and sources of renewable energy. Energy production and the environmental impacts from the use of fossil fuels will be compared with alternative forms of energy, including hydro-electric, solar, wind, geothermal, tidal, and nuclear energies. Upon completion, students should have a thorough understanding of renewable energy technology and its impact on humans and the environment.

RET 1013 - Biofuels

History of biodiesel and early applications. Understanding biochemical methods involved in the generation of biodiesel from feedstocks, animal fats, and waste vegetable oil. Social, environmental, and economical aspects of the production and usage of biodiesel, as well as the structure and function of ethanol, and uses. Defines the fundamental processes involved in ethanol production. Identifies social, environmental, and economical effects of using ethanol as a fuel source.

RET 1035 - Bioprocess Practices and Lab

Involves in-depth examination of the methods utilized in the production of biofuel throughout the plant manufacturing process. The laboratory



provides a hands-on experience of producing and testing biofuel.

RET 1024 - Process Instrumentation

Intensive combined lecture/lab course designed to expose students to the spectrum of analytical instruments utilized in modern biofuels production.

RET 1804 - Internship

This course is a cooperative internship between industry and education and is designed to integrate the students' technical studies with industrial experience. Students work with their faculty advisor and internship employer to develop an education plan with meaningful learning objectives based on their program of study. A minimum of 150 contact hours required for RET internship. Prerequisites: 45 credit hours toward graduation in the A.A.S.G.T. Renewable Energy Technology program, registration for the internship during the preregistration period prior to the semester of enrollment, and completion of an Internship Agreement.

TEC 1713 - Safety

This course emphasizes the importance of safety and sanitation in the industrial plant setting. Attention is focused on meeting federal safety regulations, setting up safety programs, and training in the concepts and practices used in industries.

TEC 1753 - Basic Mechanics

This course introduces the principles involved in the performance of mechanical work. Various drive types, gears, belts, pumps, pipes and other mechanisms will be included.

TEC 1764 - Basic Electricity I

An introduction to basic electrical terminology, units, symbols, concepts, notation, basic measurement techniques and equipment usage. Topics include charge, AC/DC current and voltage, resistance, Ohm's Law, power, series and parallel circuits, and basic troubleshooting techniques.