**14.5 Lifelong Learning**

Each year, many students elect to begin undergraduate or graduate/professional study immediately following the completion of their prior degree. The student must maintain a strong academic record and complete courses that are deemed appropriate for the particular area of graduate study. Graduate studies in animal science disciplines, as well as professional study in law, veterinary medicine, and business administration, are among the most commonly chosen programs by students and graduates. Although, educators need to motivate and prepare their students for the highest level of education, not all students will either have the opportunity or desire for higher education. There are jobs available at every level of education.

**Career Opportunities**

Students earning a B.S. degree with a major in animal science are qualified for a wide variety of challenging careers. In fact, there are over 500 different job classifications for animal science graduates. Graduates find employment in academic teaching and research, industrial research in the food and feed industries, in laboratory research programs with governmental and international agencies, private corporations, and in industrial or institutional management positions requiring a high level of scientific training. In government positions, graduates can help draft regulations governing the agriculture industry, or work directly in research. Other traditional employment can be found with feed manufacturers, animal breeding companies, meat packers, pharmaceutical companies, consulting firms, universities, or in primary production. An agricultural science degree is also the gateway to a multitude of possibilities in the growing agricultural biotechnology industry.

**High School Diploma**

Students are encouraged to take all courses in Agriculture, Food and Natural Resources that the school offers. In these courses the student will learn the basics of how plants and animals live, grow, and reproduce along with the responsibility of supplying their needs to maintain life. Through Supervised Agricultural Experience Programs (SAEPs), students can learn skills needed in actual job situations. Some of the jobs that can be secured with a high school diploma are:

* + - Herdsman
		- Feed Mill Worker
		- Milking Machine Operator
		- Sheep Shearer
		- Groomer
		- Chick Grader
		- Egg Candler
		- Small Animal Producer
		- Slaughterhouse Worker
		- Milk Transporter
		- Poultry Processing Plant Worker

**Associate’s Degree**

An associate’s degree is a two-year degree from a community college or two year institution. There are many programs that teach animal science in community colleges all across the country. The courses teach fundamentals of producing and caring for animals, sciences of chemistry, biology and zoology as well as core classes such as math and English. Many classes can be transferred to a four year university if the decision is made to pursue higher education. The jobs available with an associate’s degree are:

* + - Veterinarian Assistant
		- Computer Operator
		- Farrier
		- Poultry Vaccinator
		- Producer
		- Artificial Insemination Technician
		- Meat Cutter
		- Embryo Implant Technician
		- Wool Grader
		- Animal Buyer

An AA degree allows students to explore a variety of fields, including psychology, philosophy, history, literature, physical science, life science, math and statistics. By taking a variety of courses, students become better prepared to pursue a bachelor's degree. If students would prefer to enter the workforce, they acquire writing and interpersonal skills, preparing them for careers in fields as diverse as management, health care, sales, marketing and education.

**Required Courses**

Sample courses for an Associate in Arts degree may include the following, depending on the degree program and institution:

* English Composition
* Public Speaking
* U.S. History
* Western World Literature
* Biology
* Chemistry
* Pre-Calculus
* Calculus
* Psychology
* Economics
* Sociology

Skills Obtained

Through an associate degree program in General Studies, students can expect to develop the following skills and knowledge sets:

* Writing skills
* Interpersonal skills
* Critical thinking abilities
* Understanding of U.S. and world history
* Knowledge of basic science and scientific method

Career Related Information

Why Earn an Associate Degree in General Studies?

An AA degree in General Studies helps prepare students to continue their education and obtain a bachelor's degree at a university or college. After studying multiple subjects, General Studies students will have a better idea of what they might want their baccalaureate major to be. If they prefer to begin a career immediately after obtaining an associate degree, they will have strong oral and written communication skills - making them marketable employees.

Salary Information

The entry-level salary a potential employee may receive greatly depends on his or her experience and education, level of responsibility and company. Since General Studies associate degrees can lead to a career in a number of industries, the type of industry is also important. For example, a human resources specialist may make between $30,000 to $55,000 per year.

**Associates of Science**

**Associates of Environmental Science**

Potential environmental science students applying to an associate's degree program should have completed high school or have an equivalent education. Additionally, most community colleges require a satisfactory score on college admissions examinations, such as the ACT or SAT. Prior coursework in biology and mathematics is recommended.

Program Coursework

The curriculum for an associate's degree program in environmental science is made up of general education and professional course components. Students take courses in the humanities, English and social sciences as well as classes on the following topics:

* Resource management
* Environmental history
* Environmental ethics
* Environmental compliance
* Environmental sampling
* Hazardous materials regulations

Popular Career Options

Environmental science students may work within a variety of industries in both private and governmental sectors. Most jobs within the field require at least a bachelor's degree. Specific job roles may include (additional education required for most positions):

* Environmental consultant
* Environmental science teacher
* Natural resource conservation specialist
* Environmental advocate
* Resource management specialist
* Environmental lab technician

Continuing Education

Environmental science students can further their education by pursuing a baccalaureate or graduate degree in the field. Baccalaureate degrees are quite common in the field, and most associate degree programs prepare graduates to transfer their credits to a bachelor's program.

**Associates of Wildlife Science**

A high school diploma or GED equivalent is required. No further prerequisite education is required, but high school students can help prepare for the program by taking classes in biology, earth science and math.

Program Coursework

The typical associate's degree program includes some general education courses in composition, math and humanities along with focused studies in wildlife management and natural resources. Class titles may include:

* Basic field skills
* Topics in general biology
* Techniques in wildlife management
* Protecting the forests
* Law and ethics in wildlife management
* Fundamentals of fish culture and hatchery methods

Employment Outlook and Salary Information

Individuals who earn this associate's degree are prepared for entry-level jobs such as park and wildlife aide and natural resource technician. Technicians work with environmental scientists setting up for research or field work, and then assist in tracking results. The U.S. Bureau of Labor Statistics predicts job growth for forest and conservation technicians to be 9% from 2008 to 2018, or about as fast as average (*www.bls.gov*). The average wage for this group of technicians was $36,370 in May 2009, according to the BLS.

**Bachelor’s of Applied Arts and Sciences**

The bachelor of applied arts and sciences degree at the University of North Texas will develop your interdisciplinary interest in social sciences for use in business, industry, technology or public service. A major in applied arts and sciences combines vocational, technical or applied specialized course work with general education courses for a degree individually oriented to your career goals. The program's flexibility appeals to transfer students, returning students and older students who have accrued a significant number of credit hours.

By majoring in applied arts and sciences, you may apply some of the credit hours you receive for your associate's degree or training toward your bachelor's degree.

If you are a high school student, we suggest you prepare for college by becoming computer proficient and taking:

* English … 4 years
* Math … 4 years
* Social science — economics, geography, government, history … 4 years
* Science … 3 years
* Foreign language … 3 years
* Fine arts … 1 year

You will need to take courses in most of these subjects under the university core curriculum required of all undergraduates, in addition to your major courses. Talk with your high school counselor about preparing for college, including the entrance exams (SAT Reasoning Test or ACT) that you should take during your junior year.

**Bachelor’s Degree**

A bachelor’s degree requires four years of education at a college or university. Many offer a variety of majors that work with animals such as Animal Science, Dairy Science, Poultry Science, and Agricultural Education. These majors require more in depth study into an animal’s anatomy, nutrition, growth and development. Careers with a bachelor’s degree include:

* + - Farm and Ranch Manager
		- Producer
		- High School Agriculture Teacher
		- Agricultural Journalist
		- Meat Grader
		- Company Representatives for Animal Feed and Health Products
		- Field service Technician
		- Hatchery Manager
		- Dairy Inspector

**Bachelor of Fine Arts**

A Bachelor of Fine Arts (B.F.A.) degree program is typically geared towards those who wish to hone their artistic craft, and who want to become professionals in their field. You can earn a B.F.A. in art, music, theater, photography and other creative fields. B.F.A. programs are often quite selective, and you may need to audition or present a portfolio of your work to get admitted. A fine arts bachelor's degree program usually allows you to work closely with instructors and spend much of your time in art studios, music lessons or theater productions. B.F.A. programs typically require more credits than other bachelor's degree programs.

You can earn a Bachelor of Fine Arts in many creative areas. Studio arts, including sculpture, painting, printmaking, ceramics and drawing, are common B.F.A. programs. If you play an instrument, you can pursue a music B.F.A. course of study that trains you to perform professionally. If your passion is acting and theater, there are Bachelor of Fine Arts programs for you, too. Online fine arts bachelor's degree programs aren't offered because they require you to spend so much time practicing your art and working closely with instructors.

**Bachelor of Business Administration**

The **Bachelor of Business Administration** (**BBA**) is a [bachelor's degree](http://en.wikipedia.org/wiki/Bachelor%27s_degree) in [Commerce](http://en.wikipedia.org/wiki/Commerce) and [business administration](http://en.wikipedia.org/wiki/Business_administration). In most universities, the degree is conferred upon a student after four years of full-time study (120 credit hours) in one or more areas of business concentrations; see below. The BBA program usually includes general business courses and advanced courses for specific [concentrations](http://en.wikipedia.org/wiki/Academic_major). It has similar and mostly same subjects as that of [Bachelor of Commerce](http://en.wikipedia.org/wiki/Bachelor_of_Commerce). Alternative degree titles include **Bachelor of Science in Business Administration** (BSBA), [**Bachelor in Management and Organizational Studies**](http://en.wikipedia.org/w/index.php?title=Bachelor_in_Management_and_Organizational_Studies&action=edit&redlink=1), **Bachelor in Management Studies** (BMS), **Bachelor of Business Management** (BBM)and **Bachelor of Business Studies** (BBS).

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## Program content

The degree is designed to give a broad knowledge of the functional areas of a company, and their interconnection, while also allowing for specialization in a particular area. BBA programs thus expose students to a variety of "core subjects", and, as above, allow students to specialize in a specific academic area; see [MBA program content](http://en.wikipedia.org/wiki/Masters_of_Business_Administration#Program_content). The degree also develops the student's practical managerial skills, communication skills and business decision-making capability. Many programs thus incorporate [training](http://en.wikipedia.org/wiki/Training) and practical experience, in the form of [case studies](http://en.wikipedia.org/wiki/Case_study), projects, presentations, [internships](http://en.wikipedia.org/wiki/Internship), industrial visits, and interaction with experts from the industry. For a comparison with other [undergraduate degrees](http://en.wikipedia.org/wiki/Undergraduate_degree) in business and management, see [further](http://en.wikipedia.org/wiki/Bachelor%27s_degree#Business_and_management_degrees) under [Bachelor's degree](http://en.wikipedia.org/wiki/Bachelor%27s_degree).

The [core topics](http://en.wikipedia.org/wiki/Core_curriculum) usually comprise: [accounting](http://en.wikipedia.org/wiki/Accounting), [business law](http://en.wikipedia.org/wiki/Business_law) and [ethics](http://en.wikipedia.org/wiki/Business_ethics), [economics](http://en.wikipedia.org/wiki/Economics), [finance](http://en.wikipedia.org/wiki/Finance), [management information systems](http://en.wikipedia.org/wiki/Management_information_systems), [information technology](http://en.wikipedia.org/wiki/Information_technology), [marketing](http://en.wikipedia.org/wiki/Marketing), [operations management](http://en.wikipedia.org/wiki/Operations_management), [organizational behavior](http://en.wikipedia.org/wiki/Organizational_behavior), quantitative techniques ([business statistics](http://en.wikipedia.org/wiki/Business_statistics), [human resource](http://en.wikipedia.org/wiki/Human_resource), [financial mathematics](http://en.wikipedia.org/wiki/Time_value_of_money), [operations research](http://en.wikipedia.org/wiki/Operations_research)) and [strategic management](http://en.wikipedia.org/wiki/Strategic_management).

**Bachelor of Arts**

A [bachelor's degree](http://en.wikipedia.org/wiki/Bachelor%27s_degree) awarded for an [undergraduate](http://en.wikipedia.org/wiki/Undergraduate_education) course or program in either the [liberal arts](http://en.wikipedia.org/wiki/Liberal_arts), the sciences, or both. Bachelor of Arts degree programs generally last three to four years depending upon the country, academic institution, and specific majors or minors.

[Diplomas](http://en.wikipedia.org/wiki/Diplomas) generally give the name of the institution, signatures of officials of the institution (generally the president or rector of the [university](http://en.wikipedia.org/wiki/University) as well as the secretary or dean of the component [college](http://en.wikipedia.org/wiki/College)), the type of degree conferred, the conferring authority and the location at which the degree is conferred. Degree diplomas generally are printed on high quality [paper](http://en.wikipedia.org/wiki/Paper) or [parchment](http://en.wikipedia.org/wiki/Parchment), use ornate lettering and often include archaic terminology or languages. Individual institutions set the preferred abbreviation for their degrees.

**Bachelor of Science**

A Bachelor of Science degree is a four year degree program that offers multiple areas of study. Most agriculture type degrees are within the Bachelor of Science degree program. This program is designed to meet the needs of students desiring a program of study in agricultural production management, agricultural journalism, agricultural communications, agricultural education, or any of several other fields of study. The program allows for the selection of a minor in special interest areas such as chemistry, biology, business, environmental science, photography, journalism, or computer science. Specified course requirements for the major are structured to meet the specific needs of an individual student with the approval of the faculty advisor.

**Graduate (MS/PhD) Programs**

The plan of study for each degree program is determined by the student and his/her advisory committee composed of faculty from the university the student chooses to attend. In the Master of Science degree programs, students are expected to take courses in areas that support their discipline or interest, that are above and beyond the courses normally required for a B.S. degree in that major or closely related major.

For the Ph.D. degree, students take courses related to their major that are beyond those for the Master of Science degree. The emphasis is usually on research at the Ph.D. level.

Admission requirements for graduate study vary greatly among the different fields of study. Similarly, there is not a centralized admission process for applying to a graduate program within the Colleges of Agriculture. Each university handles its own application processing. Applications are usually for both admission and financial assistance in the form of fellowships or assistantships. Students are encouraged to contact the specific university in which they are interested (<http://www.asas.org/index.asp?page=student.html#2>). Graduate admissions personnel within each unit are also an excellent source of information on graduate programs in that discipline at other institutions. Some careers that are attainable with a master’s degree are:

* + - Veterinarian
		- Meat Inspector
		- Animal Geneticist
		- Animal Nutritionist
		- Reproductive Physiologist
		- Microbiologist
		- Research Scientist
		- College Professor

**Education Pays!**

There are multiple benefits to having expanded knowledge and experience for a career. The chart below shows the lifetime average of salary (not initial salary) depending on the education level. For example, according to this data, a person with a master’s degree can earn two times the wages of a high school graduate.

[[Chart data—TXT](http://www.bls.gov/emp/ep_chart_001.txt)]

**Employment Pays!**

Unemployment rate Education attained Median weekly earnings

in 2010 (Percent) in 2010 (Dollars)

1.9% Doctoral degree $1,550

2.4 Professional degree 1,610

4.0 Master's degree 1,272

5.4 Bachelor's degree 1,038

7.0 Associate degree 767

9.2 Some college, no degree 712

10.3 High-school graduate 626

14.9 Less than a high school diploma 444

8.2 All Workers 782

Note: Data are 2010 annual averages for persons age 25 and over. Earnings are for full-time wage and salary workers.

Source: Bureau of Labor Statistics, Current Population Survey.

BLS has some data on the employment status of the civilian noninstitutional population 25 years and over

by educational attainment, sex, race, and Hispanic origin online.

The Bureau of the Census also has some data on the educational attainment online.