

NELSON ACADEMY OF AGRICULTURAL SCIENCES ONLINE



COURSE CATALOG

August 2017

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Nelson Academy of Agricultural Sciences Online
High School Courses Descriptions

Animal Science I

Animal Science I is an introductory course in animal husbandry. This course will give the students general animal science skills. This course will provide the students with the basic education to successfully complete advanced animal science courses. It will discuss basic animal physiology, digestion, reproduction and genetics. It is highly recommended that Animal Science I be taken prior to the Veterinary Science, Equine Science and advanced Animal Science courses. Upon completion of this course, students will have excellent basic animal science skills that will lead to successful completion of upper level animal science courses.



Grade Level: 7 – 12, Adult

Semesters: 1

Credit: .5

Animal Science – Beef Production

Animal Science Beef Production explores the beef industry and puts emphasis on breeding, feeding and raising production beef. The course identifies the different beef breeds, selecting productive breeding and feeder cattle, beef nutrition, weaning management and proper beef health. Upon completion of this course, students will have an excellent understanding of proper beef production practices. Students will have the skills to start a personal beef production herd, or consider one of the many career opportunities in the beef production field.



Grade level: 9 – 12, Adult

Semester: 1

Credit: .5

Animal Science – Swine Production

Animal Science Swine Production explores the Swine industry and puts emphasis on breeding, feeding and raising production pork. The course identifies the different swine breeds, selecting productive breeding and feeder hogs, swine nutrition, weaning management and proper swine health. Upon completion of this course, students will have an excellent understanding and skills of proper swine production practices. Students will have the skills to consider starting a personal farrow and / or feeder operation or consider one of the many career opportunities in the swine production field.



Grade level: 9 – 12, Adult

Semester: 1

Credit: .5

Animal Science – Sheep Production

Animal Science Sheep Production explores the Ovine industry and puts emphasis on breeding, feeding and raising production sheep. The course identifies the different sheep breeds, selecting productive breeding and feeder sheep, sheep nutrition, weaning management and proper ovine health. Upon completion of this course, students will have an excellent understanding and skills of proper sheep production practices. Students will have the skills to consider starting a personal ovine production flock, or consider one of the many career opportunities in the ovine production field.



Grade level: 9 – 12, Adult

Semester: 1

Credit: .5

Veterinary Science I

Veterinary Science I explores the basic systems of animals. The course discusses animal cells and tissues, explores the skeletal, circulatory, respiratory, renal, reproductive, digestive, nervous, endocrine and immune systems. The course also covers basic animal health and nutrition, and explores veterinary sciences careers. Upon completion of this course, students will have excellent animal husbandry and vet skills that will help them proceed with animal and veterinary science curriculum and career exploration.

Grade Level: 9 – 12, Adult

Semesters: 1

Credit: .5



Veterinary Sciences II

Veterinary Sciences II complements the Veterinary Sciences I course by exploring the disease component of animal health. The course explores the symptoms, diagnosis, treatment and prevention of several animal diseases. Upon completion of this course, students will have the skills to consider further education as a Veterinarian, Veterinarian Technician, or other animal science career.

Grade level: 9 – 12, Adult

Semester: 1

Credit: .5



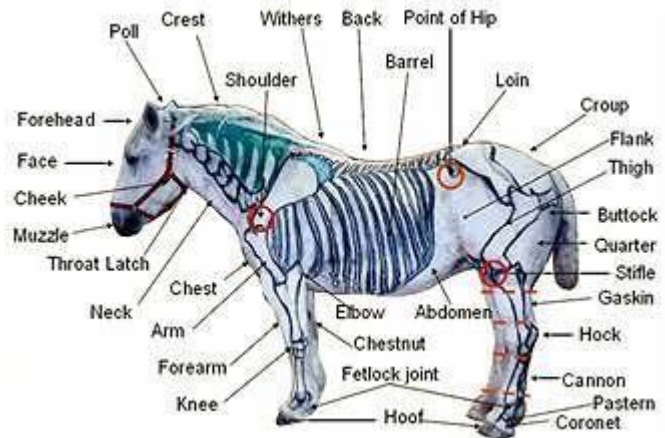
Equine Science I

Equine Science I explores the basic concepts regarding horses, donkeys and mules. The course discusses equine physiology, genetics, reproduction, digestion and basic equine health. Upon completion of this course, students will have the basic knowledge to successfully complete the equine science II course, and explore potential careers in the equine industry.

Grade level: 9 -12, Adult

Semesters: 1

Credit: .5



Equine Science II

Equine Science II complements the Equine Science I course by exploring horse feeding management, foaling, equine dental care, horse health management, behavior and training. Upon completion of this course, students will have the skills to properly care for personal horses or consider one of the many careers in the equine sciences.

Grade level: 9 – 12, Adult

Semester: 1

Credit: .5



Equine Science III

Equine III complements the Equine I and II courses by exploring equine behavior and training, Biomechanics of movement, equine disease and health management, first aid, and general equine husbandry.

Grade Level: 9-12, Adult

Semester: 1

Credit: .5

Farm Business Management I

Farm Business Management I explores the basic management concepts. The course discusses planning operations, labor costs, labor relations, farm machinery efficiency, the pros and cons of leasing versus ownership of farm equipment, and the use of custom operators. The course also discusses many of the career opportunities in the farm business industry. Upon completion of this course, students will have the necessary basic farm business skills to successfully complete upper level farm business management coursework and continue to explore the many careers in the farm business industry.



Grade Level: 9 – 12, Adult

Semesters: 1

Credit: .5

Farm Business Management – Production Decisions

Farm Business Management Production Decisions complements the Farm Business Management I course by exploring the decision-making process in production agriculture. The course explores sources for management information including extension sources, deciding to diversify or specialize, selecting profitable crop and livestock enterprises, expansion decisions, and choosing organic vs. conventional farming practices. Upon completion of this course, the student will have gained valuable decision-making skills that, along with other Farm Business Management courses, will prepare students for a career in production agriculture or agribusiness.



Grade level: 9 – 12, Adult

Semester: 1

Credit: .5

Farm Business Management – Estimating Production Costs (Coming Soon)

Farm Business Management Estimating Production Costs complements the Farm Business Management I course by exploring the cost of producing crops and livestock in production agriculture. The course explores the various costs of producing small grain crops such as spring and winter wheat, barley, oats and sugar beets. It also explores the production costs of livestock enterprises such as cattle, swine, sheep and dairy. Upon completion of this course, the student will have gained valuable cost estimation skills that, along with other Farm Business Management courses, will prepare students for a career in production agriculture or agribusiness.



Grade level: 9 – 12, Adult

Semester: 1

Credit: .5

Farm Business Management – Financial Planning

Farm Business Management Financial Planning complements the Farm Business Management I course by exploring financial planning tools required by producers in production agriculture and agribusiness. The course explores producing a business plan, budgeting, accounting, farm record systems, and measuring financial strength and progress. Upon completion of this course, the student will have gained valuable financial planning skills that along with other Farm Business Management courses will prepare students for a career in production agriculture or agribusiness.



Grade level: 9 – 12, Adult

Semester: 1

Credit: .5

Farm Business Management – Credit and Financing

Farm Business Management Credit complements the Farm Business Management I course by exploring banking and obtaining credit required by producers in production agriculture and agribusiness. The course explores how to choose a lender, farm credit system banks, GSE credit sources, and Farm Service Agency loans. The course also puts emphasis on credit decision making skills such as loan repayment estimations, using farm records to help obtain credit, calculating interest and loan payments, operating loans, consolidation loans, and when to expand your operation or reduce your debt. Upon completion of this course, the student will have gained valuable banking and credit skills that along with other Farm Business Management courses will prepare students for a career in production agriculture or agribusiness.



Grade level: 9 – 12, Adult

Semester: 1

Credit: .5

Agribusiness I

Agribusiness I explores the basic concepts of agribusiness. The course discusses the retail business of farm equipment, chemical, feeds and other agriculture supplies. The course explores agriculture cooperatives. Upon completion of this course, students will have the basic agribusiness skills needed to successfully complete the agribusiness II course, and explore the many career opportunities offered in agribusiness.

Grade level: 9 – 12, Adult

Semesters: 1

Credit: .5



Agribusiness II

Agribusiness II complements the Agribusiness I course by exploring and emphasizing the requirements and skills necessary to start an agribusiness. The course discusses whether one should start a new business, finding the right business, market potential, startup planning, obtaining capital, business management, recordkeeping and accounting, financial progress, business risk and liabilities, marketing and pricing products, business promotion, and managing employees. Upon completion of this course, the student will have gained valuable business management skills that along with other Farm Business Management courses will prepare students for a career in entrepreneurial agribusiness.

Grade level: 9 – 12, Adult

Semester: 1

Credit: .5



Plant Science

Plant Science explores plant growth concepts necessary for students who plan to study crop sciences, range science and other agronomy courses. The course discusses plant taxonomy, structure of plants, anatomy of plants, basic soil properties, essential nutrient requirements, photosynthesis, plant growth basics, propagation of plants, and the role of water in plants. Upon completion of this course, the student will have gained valuable plant growth skills that will prepare students for crop science courses and/or a career in the many areas of plant sciences and agronomy.

Grade level: 9 – 12, Adult

Semester: 1

Credit: .5



Crop Science

Crop Science explores herbicides, chemical, fertilizers (including manure), integrated pest management, pesticide use and safety, and basic grazing management practices. This course will provide students with the necessary tools and skills to further their education in plant, range and crop sciences and begin to explore the many career opportunities in the field of crop and plant sciences.



Grade level: 9 – 12, Adult

Semester: 1

Credit: .5

Greenhouse Technology I

Greenhouse Technology explores building and maintaining a greenhouse. The course discusses greenhouse plant nutrient management, greenhouse irrigation, greenhouse weeds and pest management and disease problems. A section will discuss utilizing hydroponics in the greenhouse. Upon completion of this course, students will have an excellent understanding of how greenhouses operate both in a personal or retail situation, and have the knowledge and skills to complete courses in horticulture and floriculture. Students will have the skills to consider a personal greenhouse or the many career opportunities in the greenhouse, horticulture and floriculture industries.



Grade Level: 9 – 12, Adult

Semester: 1

Credit: .5

Agricultural Marketing I (Coming Soon)

Agricultural Marketing I is an introductory grain and livestock marketing course. The course discusses the basic understanding of grain and livestock markets, supply and demand, and the value of marketing information. The course also gives a basic understanding of the futures and options markets and their relation to hedging. The course will also provide the student with a good understanding of how crop and livestock prices are determined and analyzed. This course is highly recommended for those students with limited marketing and hedging skills prior to the Agricultural Marketing II course. Students will be learning the process of placing hedging trades and analyzing those trades through the use of Commodity Challenge.

Grade Level: 9-12, Adult

Semester: 1

Credit: .5

Nelson Academy of Agricultural Sciences

Middle School Curriculum

Introduction to Agriculture

The introduction to agriculture course will explore several aspects of the agriculture industry and agriculture education. The course will have units pertaining to basic animal science, basic plant and crop science, and basics of farm business management. Upon completion of this course, students will have a good understanding of the many areas of study in the agriculture industry and agriculture education. The class will provide students with the necessary information and skills to determine which areas of agriculture they would like to pursue further.



Grade level: 7- 8

Semester: 1

Credit: .5

Agriculture Careers

The agriculture careers course will explore many of the nearly 300 plus careers agriculture has to offer. The course will discuss how to conduct and explore a career search, how to draw on your experiences to consider a career, and explore several agriculture related careers. The students will be conducting personal career searches to determine which careers they may be interested in. Upon completion of this course, students will be able to determine if agriculture offers an exciting career for them and have the skills to begin educating themselves to proceed towards a career goal.



Grade Level: 7- 8

Semester: 1

Credit: .5

Leadership

The leadership course explores the many aspects and skills needed to become a good leader. The course discusses how to become a good leader, effective communication skills, teamwork skills, and leadership goal setting. A section of the course will be dedicated to the FFA program for those interested in becoming FFA members. Upon completion of this course, students will have learned the necessary skills to become strong and effective leaders.



Grade Level: 7- 8

Semester: 1

Credit: .5

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Grade Level: 7 – 8

Semesters: 1

Credit: .5

Plant Science

Plant Science explores plant growth concepts necessary for students who plan to study crop sciences, range science and other agronomy courses. The course discusses plant taxonomy, structure of plants, anatomy of plants, basic soil properties, essential nutrient requirements, photosynthesis, plant growth basics, propagation of plants, and the role of water in plants. Upon completion of this course, the student will have gained valuable plant growth skills that will prepare students for crop science courses and/or a career in the many areas of plant sciences and agronomy.

Grade level: 7 - 8

Semester: 1

Credit: .5

