COURSE: EQUINE SCIENCE I

UNIT A: LEADERSHIP FOR CAREER DEVELOPMENT

COMPETENCY: ES01.00 Investigate organizations related to the equine industry.

OBJECTIVE: ES01.01 Discuss opportunities for leadership development in equine industry organizations.


A. Parts of a total equine science program

1. Classroom and laboratory instruction.

2. Supervised Agricultural Experience (SAE).

3. FFA.

B. Ceremonies and traditions

1. FFA mission—to make a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success.

2. Strategies—know the ways to accomplish the mission.

3. Opening and closing ceremonies are rituals that add dignity to a meeting and explain the meaning of certain traditional emblems.

4. There are many other traditions and ceremonies used in the FFA that can benefit students both while in high school as well as in jobs after graduation.
C. Opportunities

1. Officers and committees—know duties and how those experiences can be used in the equine industry. Examples—President—preside over Quarter Horse Association meetings; Secretary—keep minutes of meetings of special committees for The Jockey Club; Treasurer—keep financial records for fundraising activity of The Paint Horse Assoc.; Reporter—serve on Palomino Horse Breeders Public Relations Committee, etc.

2. Program of activities—helps in setting goals and developing plans and steps to reach those goals.

3. Career development events—speaking events, parliamentary procedure to learn how to participate in business meetings, skills events such as Equine Evaluation.

4. Proficiency awards—entrepreneurship or individual placement awards growing out of a student’s SAE program.

5. Banquets, conventions, conferences, social events, community service, etc.
COURSE: EQUINE SCIENCE I

UNIT A: LEADERSHIP FOR CAREER DEVELOPMENT

COMPETENCY: ES01.00 Investigate organizations related to the equine industry.

OBJECTIVE: ES01.02 Examine youth activities provided by equine industry organizations.


Use information from objective ES01.01 and the references to examine activities provided by equine organizations.
COURSE: EQUINE SCIENCE I

UNIT A: LEADERSHIP FOR CAREER DEVELOPMENT

COMPETENCY: ES02.00 Demonstrate the process used in conducting business meetings in equine industry organizations.

OBJECTIVE: ES02.01 Explain the role of parliamentary procedure in conducting business meetings in equine industry organizations.


A. Main objectives of Parliamentary Law

1. Focus on one item at a time—helps prevent confusion.

2. Extend courtesy to everyone—recognition before speaking.

3. Observe the rule of the majority—keeps unpopular ideas from being adopted.

4. Ensure the rights of the minority—all sides can make motions, second motions, discuss and vote.

B. Guiding Principles of Parliamentary Law


2. The “second” guarantees more than one person agrees that a motion should be considered by the group.

3. Discussion or debate—requires a 2/3 majority vote to stop discussion.

4. Presiding officer should be fair and impartial—should leave the chairman’s station and relinquish chairman’s duties to discuss or present a point of view. Symbol of authority is the gavel.

5. Many organizations including FFA have rituals to explain emblems or symbols and to emphasize traditions and beliefs. Rituals include opening and closing ceremonies, degree ceremonies, creeds, etc.

6. An agenda or list of what will be done at a business meeting should be prepared before the meeting.

7. Parliamentary Procedure CDE is a team leadership activity, whereas; creed, extemporaneous speaking and prepared public speaking are individual leadership activities.
COURSE: EQUINE SCIENCE I

UNIT A: LEADERSHIP FOR CAREER DEVELOPMENT

COMPETENCY: ES02.00 Demonstrate the process used in conducting business meetings in equine industry organizations.

OBJECTIVE: ES02.02 Demonstrate parliamentary procedure abilities used in a business meeting.


A. Main motion—Purpose is to present a new idea or item of business (only one main motion can be on floor or before the group at the same time). In order to make a motion, a member must:
   1. Address the presiding officer.
   2. Receive recognition to speak.
   3. State the motion—“I move to…” or “I move that…”.
   4. Another member seconds the motion (to show that more than one person wants the item of business before the group).
   5. Motion is discussed.
   6. Vote on motion.
   7. Chair announces result of vote.

B. Adjourn—Purpose is to close the meeting (requires simple majority vote)

C. Refer to committee—places the motion in a committee and motion should include:
   1. Number of committee.
   2. How appointed.
   4. When to report back.

D. Point of Order—used to correct a parliamentary mistake.

E. Division of assembly or house—Purpose is to get a counted vote.

F. Amendment—Purpose is to change a motion (requires simple majority vote).

G. Previous question—Purpose is to stop discussion (requires 2/3 majority vote).
COURSE: EQUINE SCIENCE I

UNIT A: LEADERSHIP FOR CAREER DEVELOPMENT

COMPETENCY: ES03.00 Use appropriate techniques in public speaking.

OBJECTIVE: ES03.01 Describe the fundamentals of public speaking.

A. Parts of a Speech

1. Introduction (Tell the audience what you are going to tell them.)
   a. The introduction is presented first in the speech.
   b. The introduction is used to catch the audience’s attention.
   c. The introduction is relatively short.

2. Body of the speech (Tells the audience.)
   a. The body is the main part of the speech and presented after the introduction.
   b. The body is the longest part of the speech.
   c. The body of the speech contains the major points and information.

3. Conclusion of the speech (Tells the audience what you just told them.)
   a. The conclusion is the last part of the speech.
   b. The conclusion is used to restate the major points and wrap up your remarks.
   c. The conclusion is usually relatively short.
B. Three Keys to Becoming a Good Public Speaker

1. Practice
   a. Use a mirror, recorder, etc. to observe appearance and develop confidence for good stage presence.
   b. Use a recorder to determine adjustments needed for voice and power of expression.
   c. Practice makes a good speaker a great speaker.

2. Preparation
   a. The most important thing in writing a speech is organization.
   b. The most important thing in giving a speech is to know your material.
      1. Gives confidence and makes delivery easier.
      2. Gives credibility with the audience.
      3. Never read a speech.

3. Perseverance
   a. Don’t give up.
   b. Success equals preparation time.
   c. Speaking becomes easier with practice.
COURSE: EQUINE SCIENCE I

UNIT A: LEADERSHIP FOR CAREER DEVELOPMENT

COMPETENCY: ES03.00 Use appropriate techniques in public speaking.

OBJECTIVE: ES03.02 Deliver a speech that addresses horses and the equine industry.

*Use information provided from objective ES03.01 to deliver a speech on an equine related topic. The references listed for ES03.01 will be used along with the FFA Prepared Public Speaking Rules,” National FFA Document.*
COURSE: EQUINE SCIENCE I

UNIT A: LEADERSHIP FOR CAREER DEVELOPMENT

COMPETENCY: ES04.00 Discuss skills needed for employment and careers in the equine industry.

OBJECTIVE: ES04.01 Identify equine industry careers and related employment opportunities.

A. Primary careers in the Equine Industry involve direct, daily contact with horses. Examples include:

1. Veterinarian
   a. Veterinarians are required to have a doctorate degree from college. (NCSU is the only school that offers a degree in veterinary medicine.)
   b. Veterinarians diagnose and treat horses for disease prevention and cure and to maintain horse health.

2. Mounted Policeman (Made famous by Royal Canadian Mounted Police – Canada’s FBI)
   a. College education in law enforcement must be supplemented by education and experience in horse care and behavior.
   b. Often assist with crowd control.

3. Horse Breeder
   a. Educational training must include a strong emphasis on equine reproductive physiology and equine behavior.
   b. Different breeding systems as well as artificial insemination are employed by horse breeders.

4. Riding instructor
   a. Must understand horse and human behavior.
   b. Must be able to effectively communicate equestrian principles.
5. Trainer
   a. Must understand horse behavior and have patience.
   b. Must relate well to horses in order to overcome the fears of horses.

6. Stable manager
   a. Must enjoy working outside and in direct contact with horses.
   b. Must incorporate a knowledge of feeding and caring for horses in the job.

7. Farrier
   1. Cares for horses’ feet, including trimming and shoeing.
   2. Usually travels from farm to farm.
B. Supplies and support services for the equine industry include those jobs that provide contact with horses, but not on a daily basis. Rather these jobs provide things needed by those in primary careers.

Examples include:

1. Commercial Feed Manufacturer
   a. Must understand the digestive physiology of horses.
   b. Must have a knowledge of feeds and nutritional values of supplements.

2. Horse Trailer Designer
   a. Little direct contact with horses.
   b. Must satisfy the demands and concerns of horse owners.

3. Tack and Equipment Maker
   a. Must understand the role that equipment plays in successful equestrian activity.
   b. Work more closely with riders and owners than horses.

4. Extension Horse Specialist
   a. Advanced college degree required of a masters or doctorate.
   b. Assist horse owners and professionals with problems of horse health and management.

5. College Professor
   a. Advanced doctorate degree
   b. Provide instruction to students preparing for a career with an equine science major of minor.
C. Careers in horse shows and rodeos offer direct contact with horses but may require travel to different places on a show/rodeo circuit.

Examples include.

1. Ringmaster
   a. Provides direction for the orderly flow of a horse show.
   b. Often this job is done on a part-time and volunteer basis.

2. Rodeo cowboy/cowgirl
   a. He/she must be skilled in riding.
   b. Often travels from place to place.

D. Careers in the Racehorse Industry are a blend of primary career and those jobs on show/rodeo circuit that may be in direct contact with horses on a ranch in addition to traveling on a race circuit.

1. Jockey/Exercise Riders may be a primary career on a ranch or on the show/rodeo circuit.
   a. Competition is keen.
   b. Positions are often secured through apprenticeships.

2. Racing Chemist (Drug inspector)
   a. Must be able to analyze blood test taken from horses.
   b. Must have high moral values to insure credibility of the test.

3. Handicapper
   a. Must understand the pair-mutual system.
   b. Should be fair and ethical in handicapping of horses.
E. Recreational careers involve those who organize the direct sporting activities and trail rides for hire.

1. Field Master
   
a. Directs hunts and horse activities for sports and recreation.

b. Must be responsible to insure the safety of all participants.
COURSE: EQUINE SCIENCE I

UNIT A: LEADERSHIP FOR CAREER DEVELOPMENT

COMPETENCY: ES04.00 Discuss skills needed for employment and careers in the equine industry.

OBJECTIVE: ES04.02 Explain various skills and credentials needed for employment in the equine industry.

A. Basic Skills Needed for a Career in the Equine Industry

1. Reading skills are necessary to interpret written information, identify relevant details and learn from text.

2. Writing skills are necessary for recordkeeping, creating documents and communication. (example: reporter)

3. Arithmetic and mathematic skills are needed to compute with numbers and then apply the computations to determine feed conversion ratios, growth rates, dosage of medicines, etc. (examples: stable manager, veterinarians)

4. Listening skills are very important to comprehend and carry out directives that foster good working relationships.

5. Good speaking skills are also important to relay ideas and information to coworkers and other interested parties. (Examples: mounted policeman, riding instructor, extension horse specialist)

6. Thinking skills are very important because they enable workers to creatively develop new ideas, solve problems and reason to some up with solutions.

7. Interpersonal skills are needed to successfully work and function with other employees as a team.

8. Technology skills allow the person to apply functions of the latest technology to learn information and apply systems.

9. Responsibility is reflected in a good work ethic, high standards of attendance an optimism in starting and finishing tasks.

10. Self-esteem and self-management skills give individuals a positive view of themselves that allows them to demonstrate understanding, friendliness, adaptability, empathy and politeness.
B. Specific Requirements for an Equine Industry Career

1. People should have an interest in horses.

2. People who work with rodeos and horse shows often are bi-vocational. (They have another job during the week.)

3. Mobility is a major prerequisite for a person who wants to work in the racehorse industry.
   a. People in the racehorse industry travel around the country to various tracks.
   b. Often jobs are seasonal based on the length of the racing season.

2. People who are interested in a career in horses must be willing to volunteer because the horse industry thrives on volunteer participation.
   a. Make contacts with those in the equine industry.
   b. Gain invaluable experience.
   c. Develop skill through “hands on” activities.

5. The most important consideration in finding a career in the equine industry is not to limit objectives.
   a. May have to work into a horse industry career gradually.
   b. Diversify to learn additional job skills that will assist with a horse industry career.
   c. Becoming familiar and subscribing to trade journals can educate and alert to career opportunities.
COURSE:    EQUINE SCIENCE I
UNIT B:    RECORDS IN THE EQUINE INDUSTRY
COMPETENCY:  ES05.00  Examine the Supervised Agricultural Experience component of the Equine Science class.
OBJECTIVE:   ES05.01  Identify the component parts of the Supervised Agricultural Experience Record used in the equine course.

A. Types of SAE

1. Entrepreneurship—planning, implementing, operating and assuming financial risks in an agricultural business or farming activity such as raising horses or operating a farm supply store.

2. Experimental—planning and conducting an agricultural experiment using the scientific process or scientific method such as comparing different levels or protein on animal growth.

3. Analytical—identify an agricultural problem that cannot be solved by experiments and design a plan to investigate and analyze the problem such as a marketing display.

4. Placement—placing students in jobs outside the regular classroom hours and may by paid or unpaid work such as working at a farm supply store or on a horse farm.

5. Exploratory—helps students learn about agriculture and become aware of possible agricultural careers through short times spent observing, shadowing or helping such as attending a career day, interviewing a veterinarian or assisting a horse owner.

6. Improvement—a series of activities that improves the value or appearance of the place of employment, school, home or community; the efficiency of a business or an enterprise; or the living conditions of the family. Examples include building a fence, computerizing records, remodeling a building or repairing tack and equipment.

7. Supplementary-Performing one specific agricultural skill outside of normal class time. This skill is not related to the major SAE but is normally taught in an agricultural program; involves experiential learning and contributes to the development of agricultural skills and knowledge on the part of the student. The activity is accomplished in less than a day and does not require a series of steps such as pruning a tree, staking tomatoes or changing oil.

Moore, Dr. Gary, 2000-2001. Supervised Agricultural Experience Program Record Book, Agricultural & Extension Education, Box 7607, NC State Univ., Raleigh, NC 27695 (NCSU SAE Record Book)
COURSE: EQUINE SCIENCE I

UNIT B: RECORDS IN THE EQUINE INDUSTRY

COMPETENCY: ES05.00 Examine the Supervised Agricultural Experience component of the Equine Science class.

OBJECTIVE: ES05.02 Record entries in the SAE Record.

A. Use the SAE Record Book to become (NCSU SAE Record Book) familiar with the types of entries required for each type of SAE.

1. Enterprise—type of enterprise, amount bought or sold, expenses, income, efficiency factors, etc.

2. Experimental—review of literature, hypothesis, data log, findings, recommendations, etc.

3. Analytical—title of activity, identification of problem, background information, steps to solve problem, project log of what was done, results and recommendations.

4. Placement—training agreement signed by student, teacher, employer and parent or guardian stating which each will do, record of work, hours and income.

5. Exploratory—date, activity, observation and comments, hours.

6. Improvement—date started, date completed, improvement activity and steps or tasks involved in the project, hours, costs.

7. Supplementary—date, supplementary activities and comments, hours.
COURSE: EQUINE SCIENCE I

UNIT B: RECORDS IN THE EQUINE INDUSTRY

COMPETENCY: ES06.00 Explore methods of financial record keeping in an equine business.

OBJECTIVE: ES06.01 Define terminology used in financial record keeping systems, such as asset, liability, inventory, net worth, etc.

A. Terms (NCSU SAE Record Book)

1. Asset—something tangible of value that a person owns.
   a. Current—items quickly converted to cash or that will be sold within 12 months—examples: cash, checking, savings, stock and non-depreciable inventory of crops, livestock, etc.
   b. Non-current—items that have a useful life of more than one year—examples: land, machinery, breeding livestock, etc.

2. Liability—debts
   a. Current—debts that are due to be paid this year—examples: fertilizer and feed bills, tractors and building payments and part of mortgage due this year.
   b. Non-current—debts not due this year—examples: mortgages not including this year’s payment.

3. New worth = total assets minus total liabilities.
   Current assets + non-current assets = total assets.
   Current liabilities + non-current liabilities = total liabilities.

4. Inventory—an itemized list of things owned by a business with the beginning value and depreciated value.
   a. Non-depreciable—items that will be used up or sold within a year—example: feed, supplies, etc.
   b. Depreciable—items that have a useful life of more than one year and lose value because of age, wear or becoming out-of-date because of technology advancements. Land is NOT depreciable property.
COURSE: EQUINE SCIENCE I

UNIT B: RECORDS IN THE EQUINE INDUSTRY

COMPETENCY: ES06.00 Explore methods of financial record keeping in an equine business.

OBJECTIVE: ES06.02 Record entries in a financial record system.

The same material as was used for objective ES04.01 will be used to meet this objective.

A. Terms (NCSU SAE Record Book)

1. Asset—something tangible of value that a person owns.
   a. Current—items quickly converted to cash or that will be sold within 12 months—examples: cash, checking, savings, stocks and non-depreciable inventory of crops, livestock, etc.
   b. Non-current—items that have a useful life of more than one year—examples: land, machinery, breeding livestock, etc.

2. Liability—debts
   a. Current—debts that are due to be paid this year—examples: fertilizer and feed bills, tractors and building payments, and part of mortgage due this years.
   b. Non-current—debts not due this year—examples: mortgages not including this year’s payment.

3. New worth = total assets minus total liabilities.
   a. Current assets + non-current assets = total assets.
   b. Current liabilities + non-current liabilities = total liabilities.

4. Inventory—an itemized list of things owned by a business with the beginning value and depreciated value.
   a. Non-depreciable—items that will be used up or sold within a year—example: feed, supplies, etc.
   b. Depreciable—items that have a useful life of more than one year and lose value because of age, wear or becoming out-of-date because of technology advancements. Land is NOT depreciable property.
COURSE: EQUINE SCIENCE I

UNIT C: INTRODUCTION TO EQUINE SCIENCE

COMPETENCY: ES07.00 Explain how the equine industry is important to society.

OBJECTIVE: ES07.01 Discuss changes in the equine industry.

A. History of the Horse

1. Horses were first used for food.

2. Horses were probably first domesticated about 5100 years ago by the Chinese.

3. The use of horses in war probably led to the first serious studies of equitation. (The study of horses is known as hippology.)

B. Horses in the United States

1. Early history
   a. There were no horses in America when Columbus arrived in 1492.
   b. Horses from Spanish missions are believed to be the foundation stock of the American Indians’ first horses and the wild horses of the plains.
   c. Horses brought by colonists from Europe were initially (draft) workhorses for pulling plows, wagons, etc.
   d. Large plantations in the southeast created the need for saddle horses and horse racing became a primary source of sport.

2. Golden age of horses (1890s to the mechanization of agriculture).
   a. Manufacture and commerce were responsible for the rise in the number of horses to a record high of almost 21.5 million in 1915.
   b. Henry Ford produced the first affordable automobile in 1908 and the machine age was born.
c. The machine age led to the major decline in the number of horses.

1. It was not until the 1950’s that the number of automobiles and tractors exceeded the number of horses in America.

2. In 1954 the number of tractors on farms exceeded the number of horses for the first time.

3. Horse numbers reached an all time low in 1960 of just under 3.1 million.

3. Modern Era

a. The majority of horses in the United States today are the light horse breed popular for pleasure riding and recreation.

b. There are 6.9 million horses in the United States used for commercial and recreational use.

c. Texas, Oklahoma and California are leading states in the horse population.

d. The three breeds with the largest numbers in the United States are the Quarter horse, Paint and Thoroughbred.

4. Future Outlook

a. Horses have had a rebound because people have more leisure time and more money to spend than ever before.

b. Recreation is a major concern and horses fit a need for those wishing to participate as well as be spectators.

c. The dominant factors that will determine the future of the horse industry in North Carolina are the need for horses for recreation and sport.
COURSE: EQUINE SCIENCE I

UNIT C: INTRODUCTION TO EQUINE SCIENCE

COMPETENCY: ES07.00 Explain how the equine industry is important to society.

OBJECTIVE: ES07.02 State the various ways equine are important in our society.

A. The Economic Impact of the Equine Industry

1. There are 1.4 million people employed in the horse industry either directly or indirectly through jobs made possible by the industry.
   a. The horse industry employs more people than either railroads, radio and television broadcasting, petroleum and coal products manufacturing or tobacco product manufacturing.

2. The horse industry directly produces goods and services of more than twenty-five billion dollars and has a total impact of $112.1 billion on United States Gross Domestic Product.
   a. The horse industry contributes more to the United States Gross Domestic Product than either one of the following: motion picture services, railroad transportation, furniture and fixtures manufacturing or tobacco produce manufacturing.
   b. The horse industry contributes only slightly less to the USGDP than apparel and other textile products manufacturing.

3. Direct revenue from the equine industry comes from the actual sale of horses, stud (breeding fees), races, shows, rodeos and entertainment.

4. Indirect revenue from the equine industry comes from feed sales, training fees, veterinary and farrier fees, transportation, labor and equipment.
B. The Scope of the Horse Industry

1. The horse industry is a highly diverse industry found in all regions of the country.

2. The horse industry is found in both urban and rural settings.
   a. Urban activities include the operation of racetracks, horse shows and public sales.
   b. Rural activities include breeding, training, maintaining and riding horses.
      1. Riding stables provide riding experiences for a fee to those people who do not own their own horses.
      2. Boarding stables keep horses for those owners who live in urban settings.

3. There are 6.9 million horses in the United States either for commercial or recreational use.
   a. 725,000 horses in racing and the race horse industry
   b. 1,924,000 show horses
   c. 2,970,000 horses used for recreation
   d. 1,262,800 horses used for ranch work, rodeos, polo and police work
4. There are about the same amount of people directly involved with horses as there are horses.
   a. There are 7.1 million Americans directly involved in the industry as horse owners, service providers, employees and volunteers.
   b. 941,000 are involved in horse racing (professionally or as volunteers).
   c. 3.6 million are involved with show horses - some of whom are also numbered among the 4.3 million involved in horses for recreation.

C. The Sport of the Equine Industry

1. More than 110 million spectators per year are found at racing events, rodeos, shows, etc.

2. Attendance at racetracks exceeds 70 million people per year.
   a. Over $13 billion dollars is waged on horse racing (pair-mutual wagering).
b. Three most famous races in America make up the “Triple Crown” of Horse Racing.

1. Kentucky Derby at Churchill Downs
2. Preakness at Pamlico in Baltimore
3. Belmont Stakes at Elmont, New York

c. Famous Triple Crown winners include War Admiral, Whirlaway, Citation and Secretariat.

3. There are about 800 rodeos and 2,200 performances each year.

a. The largest rodeo is held in Las Vegas, Nevada and awards over $2 million dollars in prize money.

b. Other major rodeos are held in Texas, Arizona, Idaho, Wyoming, Colorado, and Calgary, Canada and pay from $200,000 to $100,000 each.

c. North Carolina hosts many rodeos as fund raisers, special events, and fair attractions, etc.

4. Pleasure riding is a favorite past time for some 27 million.

a. Pleasure riding is the 3rd most favorite activity at our National Forests.

D. Other Uses for Horses

a. Crowd and riot control by the police.

b. Working stock on large cattle ranches in the western United States.

c. Therapeutic riding to provide treatment to individuals with disabilities.
COURSE: EQUINE SCIENCE I

UNIT C: INTRODUCTION TO EQUINE SCIENCE

COMPETENCY: ES08.00 Illustrate a foundational knowledge of hippology.

OBJECTIVE: ES08.01 Define terms used to distinguish equine by use, sex, age, and physical characteristics.


1. A **foal** is an unweaned horse of either sex.
2. A **filly** is an immature female horse less than 3 years of age.
3. A **mare** is a mature female horse over 3 years of age.
4. A **colt** is an immature male horse less than 3 years of age.
5. A **gelding** is a male horse that has been castrated.
6. A **stallion** is a mature male horse or pony over 3 years of age usually kept for breeding purposes.
7. A **yearling** is a horse between 1 and 2 years of age.
8. The **dam** is the female parent of a horse.
9. The **sire** is the male parent.
B. Terminology for Specialty Equine Used Primarily as Work Animals

1. A donkey (ass) is a small equine with a short, erect mane and longer ears than a horse.

2. The male ass is called a jack.

3. The female ass is called a jennet.

4. The mule is a sterile offspring resulting when a jack is crossed with a mare (female horse). The mule has a shorter, thicker head than a horse with long ears and the braying voice of the donkey.

5. A hinny is an offspring of a stallion (male horse) crossed with a jennet.

C. Horse Terminology Based on Size and Type

1. A draft horse is a large, heavily muscled horse 14-2 to 17-2 hands and weighing 1400 pounds or more. Draft horses are used for pulling heavy loads.

2. A light horse is a horse that measures 14-2 to 17 hands and weighs from 900 to 1400 pounds.

3. A horse is an equine that measures at least 14-2 hands (58 inches) at the withers.

4. A pony is an equine that measures less than 14-2 hands (58 inches) at the withers and weighs from 300-900 pounds. Ponies are used mainly for riding or driving.

5. A hand is a unit of measurement equal to 4 inches. (A horse that measures 14-3 hands is equal to 59 inches tall – 14 x 4 = 56 inches + 3 inches = 59 inches)

6. Non-trotting horses are light horses that perform a beated gate but not a trot. Breeds include:
   a. Tennessee Walking horses perform two gates – a run and a walk.
   b. Racking horses are bred to perform a type of gate.
   c. Rocky Mountain
   d. Pacifino
   e. Single foot
COURSE: EQUINE SCIENCE I
UNIT: INTRODUCTION TO EQUINE SCIENCE
COMPETENCY: ES08.00 Illustrate foundational knowledge of the hippology.
OBJECTIVE: ES08.02 Describe colors and markings of equine.

A. Horse Terminology Based on Color  
(IMS) 8892-B; HIH 140, p. 1-2; Equine Science, 2nd Edition, pp. 207-211

1. Basic Body Colors.
   a. Bay is a horse that always has a black mane and tail, usually black points, and remaining body color varying from tan to brown.
   b. Black refers to a horse that is solid black all over its body with light areas.
   c. A brown horse varies from medium to dark, almost black, brown with a black mane and tail. A brown can always be distinguished from a black by the light areas at the muzzle, eyes, flanks and inside the upper legs.
   d. A chestnut horse is dark red or brownish red with the mane and tail either the same or lighter in color than the body.
   e. A white horse has pure white hair, pink skin and brown, hazel or blue eyes.

2. Color variations include:
   a. Appaloosa horses which have a spotting pattern either over the hips or scattered over the body.
   b. Roan horses which have a mixture of white and colored hairs.
   c. Paint and Pinto horses which have a combination of white with colored markings. The two most common patterns are tobiano and overo.
   d. Palomino horses which are a golden color, with a white or light colored mane and tail.
   e. Gray horses which have a mixture of white hairs with any colored hairs.
   f. Dun horses have a yellowish or gold body color with a mane and tail of varying colors with dorsal stripes, zebra stripes on legs and transverse stripes on withers.
g. **Buckskin** horses have a yellowish or gold body color with a black mane and tail, usually black points and no dorsal stripes.

h. **Sorrell** horses have a reddish to copper red body with the mane and tail usually the same color or flaxen.

B. Terminology based on Markings

1. Markings include black coloration from the knees and hocks down known as points.
   a. Points may also be black markings at the tips of the ears.
   b. Points are from the knees and hocks down and are common in bays and browns.

2. Some of the other markings include white head and leg markings.
   a. A **star** is any white marking in the forehead.
   b. A **snip** is any white marking, usually vertical, between the nostrils or on the lips.
   c. A **stripe** is a narrow vertical white marking extending from about the line of the eyes to the nostrils.
   d. A **pastern** is a white marking which includes the entire pastern area from the coronet to the pastern.
   e. A **stocking** is a full white marking to the knee or hock from the coronet.
   f. A **half-stocking** is a white marking from the coronet to the middle of the cannon.
   g. A **sock** is a white marking from the coronet to the lower cannon.
COURSE: EQUINE SCIENCE I

UNIT C: INTRODUCTION TO EQUINE SCIENCE

COMPETENCY: ES08.00 Illustrate a foundational knowledge of hippology.

OBJECTIVE: ES08.03 Discuss identifying features of the major breeds of equine.

A. Light Horse Breeds – used for stock, pleasure, racing, show and sporting events.

(IMS) 8894
Modern Livestock and Poultry Production,
pp. 554-563;
HIH, 150, 153, 157, 158, 159;
Equine Science, 2nd Edition,
pp. 54-63

1. Quarter horses
   a. Originated in the United States and is the oldest of American breeds.
   b. Believed to have received its name from the short races it was bred to run during the colonial era.
   c. Considered by many as the most versatile breed.
   d. Used as stock horses, racing horses, pleasure horses, hunters and jumpers.
   e. Various colors, well muscled and powerfully built.
   f. Most popular horse in the world with more quarter horses registered than any other breed.

2. Thoroughbred
   a. Originated in England as a running horse.
   b. Various colors with conformation emphasizing factors contributing to racing and sports.
   c. The major uses are racing and hunt seat events.
   d. Thoroughbreds are registered with the Jockey Club.
3. American Paint

- Originated in the United States.
- Spotted or two-tone horses with white and another color for body markings.
- Paints must be sired by a registered paint, quarter horse or Thoroughbred.
- These horses are used primarily for stock, pleasure and show.
- Paints have rapidly risen in popularity because they are a colorful, docile horse with quarter horse attributes.

4. Appaloosa

- Originated in Spain and the United States.
- Bred first by the Nez Perce Indians.
- Various colors but usually white over the hips with spots intermingled.
- Used as stock, pleasure, race, parade, and show as well as hunters and jumpers.

5. Arabian

- Originated in Arabia. Has large nostrils and long eyelashes adapted for desert conditions.
- Noted for its dish appearance to the face because of a more pronounced jibba.
- Used for stock, saddle, show, pleasure, racing, endurance races and competitive trail rides. Can carry more weight over longer distance than Thoroughbred or Quarter horse.
- Oldest purebred dating to 5,000 B.C.
6. Pinto
a. Originated in the United States probably from horses brought here by the Spanish.
b. Pintos were popular with the Plain Indian and early American cowboy.
c. Spotted horses of any conformation type.
d. Pintos are used for stock, saddle, racing, polo and as hunters.

7. American Saddlebred
a. Originated in Kentucky and used for show and pleasure.
b. This is the “true” show horse as it was bred primarily for show purposes.

8. Standardbred
a. Originated in United States for harness racing, either trotting or pacing and is the dominant breed used for that purpose.
b. Standardbred pull, sulkies, light racing size with bicycle type wheels.
c. Also used for show.

9. Morgan
a. General purpose horse developed in Vermont.
b. Less white markings than other breeds (horsemen often prefer a solid colored with less “croarining.”)
c. Easy to manage and pleasing temperament.

10. Palomino
a. Breed named after its greatest asset – coat color.
b. Color – golden body with white, silver or ivory mane and tail.
c. Used for parade horses, show, stock and pleasure.
B. Warmbloods

These are breeds that originated as a result of light horse breeds (also known as hot blooded horses) being crossed on draft horse breeds (cold blooded horses).

- Warmbloods are used for eventing (for hunts, jump), jumping and dressage.
- Dressage is a competitive event that combines gates and maneuvers where horses are judged on their precision and response to rider commands.
- Warmblood events are performed in English tact.
- Warmbloods range from 15-1 to 17 hands high and weigh between 1200 and 1600 pounds.
- Warmbloods are preferably a solid color with few or no white markings. The majority of warmblood registries do not have closed studbooks.

2. Hanoverian

- Origin Germany.
- Noble horse with outstanding ability in international equestrian events.

3. Trakehner

- Origin – East Prussia, originally as a new type of cavalry mount for the Prussian army.
- First brought to North America in 1957, this breed excels in dressage events because of its “floating trot”.

4. Holestiner

- Origin – Germany.
- Bay color only with few white markings.
- Noted for carrying its head in a beautiful arch and its excellent jumping ability.

5. American Warmblood

- Origin – United States from sporting horses.
- Consist of horses with varying breed backgrounds that qualify by pedigree or individual performance and conformation.

6. Irish Draft

- Origin – Ireland.
C. Ponies

(IMS) 8894;
Modern Livestock and
Poultry Production,
p. 554-563;
Equine Science, 2nd Edition,
pp. 64-65

1. Pony of the Americas
   a. Originated in the United States as a cross between Appaloosa and Shetland. It is one of the newest breeds.
   b. Must be from 46 inches to 54 inches at the withers.
   c. Pony of the Americas have Appaloosa markings.
   d. Used as western type for youth and is very good for young riders.

2. Shetland
   a. Originated in the Shetland Isles.
   b. Known for its small size, maximum 46 inches at the withers.
   c. Used for harness racing and for pleasure riding by children, and is very hardy and gentle.

3. Welsh
   a. Originated in Wales.
   b. A little larger than a Shetland pony.
   c. Used as a riding horse for children.
   d. Very hardy, very good trotting ability and influenced trotters all over the world.

1. Belgian
   a. Originated in Belgium.
   b. Largest draft breed.
   c. Very gentle and quiet, the “Gentle Giant.”
   d. Used for exhibition purposes, special attractions and farm work.

2. Clydesdale
   a. Originated in Scotland.
   b. Medium size draft breed.
   c. Noted for heavy feathering (a fringe of hair around the horse’s foot just above the hoof).
   d. Uses – exhibition, special attractions and farm work.

3. Percheron
   a. Originated in France.
   b. Size is between Belgian and Clydesdale.
   c. Extremely gentle.
   d. Uses - exhibition, special attractions and farm work.

4. Suffolk
   b. Only color is chestnut.
   c. Smallest draft breed.
   d. Uses – exhibition, special attractions and farm work.
COURSE: EQUINE SCIENCE I

UNIT C: INTRODUCTION TO EQUINE SCIENCE

COMPETENCY: ES09.00 Summarize the advantages and disadvantages of operating an equine enterprise.

OBJECTIVE: ES09.01 Explain economic and management variables that affect an equine enterprise.

A. Cost of Horse Acquisition

1. The initial cost of acquiring a horse varies greatly.
   a. A grade horse (an animal that is not registered with a specific breed register) may be rather inexpensive.
   b. A racehorse may cost millions of dollars.
      1. Purchase the horse suitable for the purpose regardless of price.
      2. Remember, an inexpensive horse costs as much to maintain as an expensive horse.
   c. Initial cost depends on training, age, breeding, conformation and temperament.
      1. Registered horses with show potential and some training may cost thousands.
      2. Outstanding breeding animals or racing prospects may cost millions.
B. Cost of Horse Maintenance

1. Maintenance cost varies according to the way the horse is kept, but one will usually spend more for maintenance than the purchase price.

   a. All horses may require:

      1. A farrier (horseshoer) every 6 to 8 weeks to trim the horse’s feet and replace shoes.

      2. A veterinarian to treat injuries and/or set up a preventative maintenance program for horses.

      3. Tack (riding and driving equipment) used with the horse.

      4. Trailers for hauling.

      5. Trainers to assist with training the horse.

   b. Stabling is a critical and expensive item for horse owners.

      1. A paddock (small fenced area) and shelter is satisfactory in many cases and cheaper than a stall.

      2. About 2 acres of land is needed per horse in order to provide some pasture.

      3. Zoning laws may dictate that a horse be kept at a boarding stable.

         a. Boarding stables should be selected on the basis of safety, cleanliness and stalls of adequate room.

         b. Boarding stables should provide feed of a high quality and clean, fresh water at all times.

         c. There should not be evidence of overcrowding when pastures are provided at boarding stables.

   c. Some horses are confined to a stall.

      1. Increased monetary cost of feed and bedding.

      2. Increased time requirement for riding or otherwise exercising the horse every day, keeping the stall clean and feeding the horse.
C. When is the Cost of Ownership too Much?  (IMS) 8890-B

1. Owners may spend more time caring for a horse than riding it.
   a. The owner must feed, water, groom and exercise the horse.
   b. The owner must remove manure from stalls and paddocks (small fenced areas) regularly.

2. When the horse requires more time and energy than the person expected, what are the options?
   a. Consider paying for horse riding privileges at a riding stable.
   b. Work at a boarding stable in exchange for riding privileges.
   c. Volunteer to assist a horse owner with equine events.

3. The owner may not enjoy a profit from the equine enterprise that is commensurate with the investment in terms of time and money.
COURSE: EQUINE SCIENCE I

UNIT C: INTRODUCTION TO EQUINE SCIENCE

COMPETENCY: ES09.00 Summarize the advantages and disadvantages of operating an equine enterprise.

OBJECTIVE: ES09.02 Summarize the elements of a successful equine business.

A. What constitutes an equine business? (HIH) pp. 1320-1, 1320-8, and 1360-1

1. Many people own horses as a hobby first.
   a. This gives owners the opportunity to learn about horses.
   b. A hobby can become a business but you must know horses—their care, selection, handling, training and management before you can have a successful equine business.

2. The Internal Revenue Service must recognize that the horse activity is a business.
   a. Can be difficult to convince the IRS.
   b. Must act like a business and operate in a “business like manner.”
   c. If the taxpayer has two profit years out of seven and operates in a business-like manner, it is presumed to have a profit motive.

3. Operating in a “businesslike manner.”
   a. A profit motive must be substantiated by a well-thought-out and documented plan.
   b. There must be evidence the plan is being used, i.e. good records that show whether you made or lost money.
   c. Good tax management accomplished with record keeping minimizes the tax obligation without reducing profitability.
   d. Bankers are more likely to loan money for horse activities if you can show the potential return on investment.
B. Three Steps Toward Operating a Successful Equine Business (HIH) pp. 1320-I through 1320-9

1. Know your market.
   a. If you miss the market, you lose regardless of how well you know horses.
   b. Will there be a demand for the horse enterprise you are planning?
   c. What price range will bring acceptable profit of the horse type?
   d. Tuning into the market takes study, working with knowledgeable “horse people” and analyzing pricing factors.

2. Have a plan.
   b. Helps you see the big picture of the operation.
   c. Forces you to spell out objectives and how they are to be achieved.
   d. Forces individuals to organize their expectations and then develop a program to make them happen.
   e. Helps avoid piecemeal decisions.
   f. Provides a good yardstick or record to measure how well you are doing.

3. Evaluate your progress.
   a. Review records.
COURSE: EQUINE SCIENCE I
UNIT C: INTRODUCTION TO EQUINE SCIENCE
COMPETENCY: ES09.00 Summarize the advantages and disadvantages of operating an equine enterprise.

OBJECTIVE: ES09.03 Discuss types of equine enterprises.

A. Demand for Equine Enterprises is Based on: (IMS) 8891; Horses and Horsemanship, M. E. Ensminger, p. 540 7th Edition, Interstate Publishers, Inc., Danville, IL; (H&H); Equine Science, 2nd Edition

1. The use of horses for recreation and pleasure
2. The continued need for the “cow” pony is a western range statue
3. The continued interest in horse racing

B. Types of Equine Enterprises

1. Breeding farms
   a. Produce yearlings for sale and/or ownership
   b. Offer breeding services
2. Sales agencies provide grooming, feeding and basic training for yearlings, weanlings and other horse sales.
3. Training farms break and train horses for racing, showing or working.
4. Boarding and/or riding stables
   a. Manage and maintain horses for owners/investors
   b. Furnish horses for riding purposes. All types may be found in preparing horses for show, racing and events.

C. Some Forms of Doing Business (HIH) 1360-6 and 1360-7

1. Sole proprietorship is the simplest form when one person is sole owner of the business.

2. In a partnership income, loss and credits pass through to the partner. There are fewer state laws requirements than a corporation, but more than for a sole proprietorship.

3. Corporations have the advantage of limited liability, but may be offset by the additional costs of doing business in a corporate form.
1. **Vision** – It is very important to understand how vision influences a horse’s actions. The vision for a horse is special in that they have both monocular vision and binocular vision which works well for grazing and watching for predators coming from either side, but poorly for judging height and distance.

   a. Monocular vision means the horse can see separate scenes with each eye and thus a grazing horse can see almost all the way around its body.

      1. Horses see up to 270 degrees without turning their heads.
      2. A horse is good at detecting movement, but has a hard time focusing clearly on objects.

   b. Horses are like people in that they can also see the same scene with both eyes (binocular vision).

      1. The horse’s binocular vision is not as good as their monocular vision and is used to judge distances in front of the horse.
      2. Horses can not see with binocular vision objects that are closer than 4 feet.
      3. For the most part, horses see poorly and require special considerations.

         a. Horses adjust their range of vision by raising their head to see objects that are close or by lowering their head to see objects that are at a distance.

         b. Horses have two blind spots – one directly below its head and the other directly behind its hindquarters.
c. The time period required for a horse to adjust its vision to a change in light conditions of a dark stall, a dark trailer or dark building is rather long when compared to humans.

d. Implications vision has for horse behavior include:

1. Horses may be spooked when an object passes from the field of vision from one eye to the other eye.

2. Horses may lower and raise their head in an attempt to see a strange jump.

3. A barrel racing horse has to be taught to judge the distance to the barrel in order to make a smooth turn around it.

4. A rabbit or animal will not even be seen by a horse until the horse detects movement, and then the horse may react quickly depending on the object’s movement and the horse’s temperament.

5. Horses being moved into a dark trailer may lower their nose to smell and raise their head rather high in an attempt to see better when loading.

6. Young horses that are punished because of their natural fear of objects will assume the object caused the pain and will have negative behavior reinforced.

7. With their head in the normal position, horses probably do not see the feed they eat or the ground they step on.

8. Horses need free reign when negotiating obstacles and traversing rough terrain.
e. Touch – The horse has a well developed sense of touch, particularly around the eyes, ears, and nose, but also feet, ribs, flank, neck, withers, and shoulders.

1. Touch is the most important sense that a horse uses in responding to cues and signals from a rider.

2. Horses are particularly fearful of anything touching or holding their legs and regular handling is required to overcome that fear.

3. Implications touch has for horse behavior include:
   a. Improper reigning with a heavy hand can result in the horse developing a hard mouth that has lost sensitivity.
   b. Riders need to be aware of a horse’s sensitivity in the flank area to avoid unnecessary bucking.
   c. Care needs to be taken when saddling a horse if there is any indication that the horse is sensitive to the process.

f. Hearing – Horses have a very good sense of hearing and therefore, the eyes and ears must work together.

1. Horses hear sounds that are not heard by human ears.

2. Loud noises such as gun shots, parade bands, and fox horns may actually hurt the horse’s ears.

3. Implications hearing has for horse behavior include:
   a. Soft voice commands may be used in conjunction with leg cues, light hands, and shifts in the rider’s weight to get the horse to respond.
   b. Riders need to be aware that the horse may respond to sounds that they have not heard and loud sounds to the rider will certainly have more affect on the horse.

g. Smell – Horses have a very good sense of smell and often times smell is the first sense that mares use in accepting their foal.

1. Smell is the first sense that mares use in accepting their foal and this becomes critical in the case of orphaned or foals that are pulled.

2. Stallions can identify mares in heat for great distances downwind.

3. Colts should be allowed to smell the saddle and blanket when being saddled for the first few times to reassure them that the saddle and blanket has been used by other horses and that they are not dangerous.
A. Horses have memories second only to elephants, but rank very low on intelligence test that require the ability to reason. 

1. Rats, cats, monkeys, and birds show higher reasoning skills than horses and dogs. 
   a. Donkeys have more reasoning power than horses. 
   b. Horses learn quite well and compensate with an excellent memory. 

2. Horses may be perceived to have reasoning ability when in reality it is their excellent memory and ability to learn. 
   a. Often times an idle horse will discover things because of their highly inquisitive nature such as how to open a gate 
   b. Once they perform an act they will remember it. 

B. How the horse’s memory impacts behavior 

1. A well-trained horse never forgets its training and neither does a poorly trained horse ever forget its training. 

2. Bad habits must be recognized and corrected before they become ingrained in the horse. 

3. Horses do not logically determine to do the things desired of them, but they learn and discriminate between the slightest of cues really well.
COURSE: EQUINE SCIENCE

UNIT D: HORSES IN A SAFE EQUINE ENTERPRISE

COMPETENCY: ES11.00 Read equine behavior to promote safe and rewarding horsemanship.

OBJECTIVE: ES11.01 Interpret signs of equine behavior.

A. Features to watch  

Equine Science, 2nd Edition  

p. 492 – 497

1. The ears, eyes, nose and mouth give many indications of what a horse is feeling

2. By observing these features, a rider or handler can be better prepared for reactions from the horse.

3. By observing these features, a rider or handler may prevent actions that will result in danger to the horse and handler.

B. Warning signs to observe  

Equine Science, 2nd Edition,  

p. 492 – 497

1. Ears pinned back should alert the handler or rider that the horse might be angry or irritated and about to act in an aggressive manner.

2. The exception is that horses may also hold their ears back when they are performing a task that requires great effort such as running.

3. If mares and newborn foals pin their ears back, they should be particularly respected as they are probably irritated.

C. Signs of interest or suspicion  

Equine Science, 2nd Edition  

p. 492- 497

1. Ears pointed forward and wide open eyes indicate the horse is showing interest in what they see.

2. Horses are curious by nature and will hold their ears forward when something attracts their interest.
D. Signs of fear and fright

1. Initially ears may become more erect or slightly leaning back.

2. Ears may be held out to the sides when a horse expresses terror

3. When the horse’s nostrils dilate, their eyes flash, and their muscles tense, the horse is frightened to the point of taking some kind of action.
COURSE: EQUINE SCIENCE I

UNIT D: HORSES IN A SAFE EQUINE ENTERPRISE

COMPETENCY: ES11.00 Read equine behavior to promote safe and rewarding horsemanship.

OBJECTIVE: ES11.02 Explain how to safely manage equine.

A. Reassure the horse

1. By anticipating the possible behavior prior to it actually taking place, the rider or handler may take appropriate action to direct the horse’s behavior.

2. Reassuring words spoken softly from the rider and proper pressure with the legs and proper use of the hands will help the horse overcome fright.

3. Slow deliberate action calms the horse and may help keep a frightened horse from bolting.

4. Horses sense insecurity or confidence in those who are riding and handling them and behave according. A person lacking in assurance will result in an insecure horse.

B. Common sense actions

1. A handler should never try to lead or herd a horse when standing in the blind spots to the horse’s rear or front.

2. A handler should always approach a horse at its left shoulder in order to maintain a position of control and safety.

3. A handler should make a horse stand with its head facing a fence or wall prior to releasing and removing the halter in order to guard against possible bolting.

4. The handler should make a horse stand until they are positioned in a safe manner that will guard against run over or kicking.

5. The handler should never allow themselves to be trapped between any barrier and an angry or frightened horse.

6. A handler should never chase a horse when trying to catch them as this action reinforces a horse’s desire to escape.

7. The handler should always avoid sudden movements that may be misinterpreted by the horse.
COURSE: EQUINE SCIENCE I

UNIT D: HORSES IN A SAFE EQUINE ENTERPRISE

COMPETENCY: ES11.00 Read equine behavior to promote safe and rewarding horsemanship.

OBJECTIVE: ES11.03 Manage equine safely.

Use the material referenced in Unit D objectives ES10.01, ES10.02, ES11.01 and ES11.02 to complete this objective.
COURSE: EQUINE SCIENCE I

UNIT E: EQUINE ANATOMY

COMPETENCY: ES12.00 Demonstrate knowledge of equine anatomy.

OBJECTIVE: ES12.01 Describe the major external parts and anatomy of equine.

A. Major External Parts of a Horse

1. Barrel—The central region of a horse from the back to the abdomen.

2. Coronet—the dividing line between the hoof and the leg of the horse (located in the coronary band).

3. Fetlock—The joint connecting the cannon and the pastern above the hoof of the horse.

4. Flank—The fleshy side of a horse between the ribs and the hip.

5. Forelock—The lock of hair falling forward over the face.

6. Heart Girth (Girth)—The circumference of the chest just behind the withers and in front of the back.

7. Hock—The large joint half way up the hind leg of a horse.

8. Mane—The long hair on top of the neck.

9. Muzzle—The lower end of the nose which includes the nostrils, lips and chin.

10. Pastern—The part of the leg between the fetlock joint and the coronary band of the hoof.

11. Poll—The top part of the head between the horse’s ears.

12. Shoulder—The part extending to the base of the neck that connects the forelimbs to the body.

13. Stifle—The knee-like joint above the hock in the hind leg of a horse.

14. Thigh—The part of the horse’s hindquarter between the stifle and the rump (croup).

15. Withers—The highest part of the back located at the base of the neck in the horse.

B. Terminology of anatomy

1. The hip area is also called the hindquarter.

2. The topline is the back and loin from the withers to the croup (rump). The topline is also referred to as the length of the back.

3. The underline is the area from elbow to the stifle.
COURSE: EQUINE SCIENCE I

UNIT E: EQUINE ANATOMY

COMPETENCY: ES12.00 Demonstrate knowledge of equine anatomy.

OBJECTIVE: ES12.02 Locate the external parts and anatomy of equine.

*Use the material referenced in objective ES12.01 to complete this objective.*
COURSE: EQUINE SCIENCE I

UNIT E: EQUINE ANATOMY

COMPETENCY: ES13.00 Discuss the skeletal/muscular system of equine.

OBJECTIVE: ES13.01 Describe components of the equine skeletal/muscular system.

A. General Skeletal/Muscular Information (IMS) 8893-A

1. Horses have approximately 210 bones that:
   a. support muscles, and
   b. protect internal organs.

2. The horse’s skeleton has the mobility of its parts to allow the horse much freedom of movement.

3. Muscles are attached to bones by tendons and move the bones by contracting and relaxing.

4. Tendons are encased in thin, fibrous sheets (tendon sheaths) that lubricate the tendon so that it might move more freely.
B. Parts of the Skeletal/Muscular System  (IMS) 8893-A

1. The vertebral column consists of bones in the tail, neck, back, loin and croup.

2. There are 18 pair of ribs in a horse, but 19 ribs are frequently found on one side or the other.

3. The sternum is the canoe shaped breastbone made up of seven fused segments.

4. The skull encloses the brain and some important sense organs.

5. Thoracic limbs include all the bones of the front legs.

6. The pelvic limbs include all the bones of the hind legs including the joints of the stifle and the hock.

7. Neck muscles should be long, smooth and flat.

8. The forearm muscles should be long, lean and attach to the bone close to the knee.

9. Muscling in the horse’s back and loin add support in the vertebral column.

10. Long, tapered muscles in the hindquarter provide speed whereas large, bulging muscles provide more power.
COURSE: EQUINE SCIENCE I

UNIT E: EQUINE ANATOMY

COMPETENCY: ES13.00 Discuss the skeletal/muscular system of equine.

OBJECTIVE: ES13.02 Explain functions of the equine skeletal/muscular system.

A. Functions of the skeletal system (IMS) 8893-A

1. The ribs provide protection and space for vital internal organs and should be long and well sprung.

2. The skull protects and provides cavities for the eyes and nervous system.

3. The thoracic limbs (front legs) carry about 60% of the horse’s weight and are subject to a lot of stress and affect the movement, usefulness and value of the horse.

4. The pelvic limbs (hind legs) are the horse’s main means of propelling itself forwards.
   a. The stifle joint has a locking mechanism that allows the horse to sleep while standing.
   b. When the stifle joint sticks, the horse cannot bend the joint and the “stifled” horse requires surgery.

5. The hock joint is the most complex and most important single joint in the horse.
   a. There are more serious unsoundness found in the hocks than any other part of the body.
   b. A horse must be structurally sound to move and perform well.

B. Functions of the muscular system (IMS) 8893-A

1. The neck muscle affects the ease and freedom of movement of the forelegs and should be long, smooth and flat.

2. Long, lean forearm muscles allow long strides.

3. Good muscling in the back and loin helps support the vertebral column and prevents “swayback” or a sagging back when the horse is used for riding.
COURSE: EQUINE SCIENCE I

UNIT E: EQUINE ANATOMY

COMPETENCY: ES14.00 Describe the internal organs of equine.

OBJECTIVE: ES14.01 Identify major internal organs of equine.

A. Organs of the Thoracic Cavity (IMS) 8893-A

1. The thoracic cavity is the area between the neck and abdomen.
   a. Ribs form the sides of the thoracic cavity
   b. The organs of the thoracic cavity include the circulatory and respiratory systems.

2. Major organs include:
   a. The heart lies towards the bottom of the thoracic cavity and to the left of center.
   b. The lungs lie to the sides and behind the heart and fill most of the thoracic cavity.

B. Organs of the Abdominal Cavity (IMS) 8893-A

1. The abdominal cavity extends from just behind the thoracic cavity to the pelvic region.
   a. The diaphragm is a body partition of muscle and connective tissue.
   b. The diaphragm separates the abdominal and thoracic cavities.

2. Major Organs Include:
   a. The liver is a large organ extending all the way across the abdominal cavity.
   b. The spleen and stomach lie behind the liver and in front of the small and large intestines.
   c. The kidneys lie on each side of the backbone and under the last ribs in the loin area of the horse.
C. Organs of the Pelvic Cavity

1. The pelvic cavity is continuous with the abdominal cavity.
   
   a. The rectum is the terminal portion of the intestine, which continues from the abdominal cavity to the pelvic cavity.
   
   b. The urinary bladder lies within the pelvic cavity and extends into the abdominal cavity when full.

2. Major organs included in the pelvic cavity are:
   
   a. Male reproductive organs which lie toward the back and at the base of the pelvic cavity; or,
   
   b. Female reproductive organs extending from the back of the cavity to near the abdominal cavity.
COURSE: EQUINE SCIENCE I

UNIT E: EQUINE ANATOMY

COMPETENCY: ES14.00 Describe the internal organs of equine.

OBJECTIVE: ES14.02 Specify how internal organs of equine function.

A. Functions of organs of thoracic cavity (IMS) 8893-A
   1. The heart pumps blood throughout the horse’s body.
   2. The lungs exchange oxygen and carbon dioxide between the blood and the air.

B. Functions of organs of abdominal cavity (IMS) 8893-A
   1. The liver metabolizes several nutrients, detoxifies (removes the poison) many drugs and poisons and stores some nutrients.
   2. The spleen and stomach are part of the gastrointestinal tract and function in the digestion and utilization of food.
   3. The kidneys remove wastes from the body and conserve fluids and important components of the blood.

C. Functions of organs of the pelvic cavity (IMS) 8893-A
   1. The rectum is the terminal portion of the intestine and serves as the exit part for solid waste.
   2. The urinary bladder collects liquid waste.
   3. Horse reproductive organs will be covered.
COURSE: EQUINE SCIENCE I
UNIT E: EQUINE ANATOMY
COMPETENCY: ES15.00 Summarize the equine digestive system.
OBJECTIVE: ES15.01 Interpret digestive system terminology.

A. Digestive System Basics  

1. The digestive system of a horse is unique in that:
   a. It has a relatively small but efficient stomach for grain utilization.
   b. It has a large cecum and colon for roughage utilization.

2. The digestive system or alimentary canal of a horse:
   a. Consists of a muscular hollow tube over 100 feet long that loops itself many times as it runs from the mouth to the anus.
   b. The alimentary canal varies in size from 1 inch in diameter at the small intestine to 8 inches in diameter at the large colon.

B. Digestive System Mechanics

1. Digestion is the process of breaking foodstuffs into their component nutrients so that they will be mostly soluble in water and easily absorbed (taken in) through the mucous membrane that lines the intestinal tract. There are several aspects of the process:
   a. Mechanical action includes mastication (chewing), deglutition (swallowing), intestinal movements and defecation (elimination of waste).
   b. Secretory action is the action on foodstuffs by secretions from glands within the body.
   c. Chemical action would include action upon foodstuffs by the chemicals found in the stomach.
   d. Microbial action is the breakdown of foodstuffs by very minute organisms within the digestive tract.

2. Digestion occurs from the time food is eschewed (ingested) until it is passed into the small colon for elimination from the rectum.
COURSE: EQUINE SCIENCE I

UNIT E: EQUINE ANATOMY

COMPETENCY: ES15.00 Summarize the equine digestive system.

OBJECTIVE: ES15.02 Explain functions of the equine digestive system components.

A. Anatomy of the Digestive System (Alimentary Canal) (IMS) 8895-A

1. The Mouth includes the teeth, the tongue and large salivary glands.
   a. A mature horse secretes about 10 gallons of saliva a day.
   b. Saliva wets foodstuff so that it is easier to go down the esophagus, and begins the digestion of carbohydrates.

2. The Pharynx is the muscular, funnel shaped upper back portion of the horse’s mouth designed to guide food down the esophagus.

3. The Esophagus is a highly muscular 4-5 foot tube, which carries food and water from the mouth to the stomach through progressive waves of muscular contractions.
   a. A horse cannot belch to relieve gas pressure or vomit as a result of the esophagus.
   b. A horse’s stomach will usually rupture before vomiting occurs.

4. The Stomach is a relatively small u-shaped sac at the front of the abdominal cavity.
   a. Very little nutrient absorption and very little bacterial action occur in the stomach.
   b. Swallowed foods are acted on by gastric juices secreted from glands in the mucous membrane lining the stomach to break down protein and fat.
   c. Because of the small size of the stomach, horses need to be fed small amounts 2 or 3 times daily for efficient digestion.
1. The **Small Intestine** is a 2-inch by 60-foot tube that coils and loops its way from the stomach to the large intestine.
   a. The small intestine along with the pancreas and liver supplies most of the enzymes for digestion.
   b. The small intestine digests and absorbs 60-70% of the protein a horse eats and digests most of the soluble carbohydrates for the horse to use for energy.
   c. The contents of the small intestine are about 92-95% water.

2. The **Large Intestine** is a 25-foot long tube comprised of the cecum, large colon, small colon and rectum, which moves undigested material from the small intestine to the anus for elimination.
   a. Bacteria action is considerable in the large intestine to digest cellulose, produce amino acids for protein synthesis, and produce fatty acids, which supply about one fourth of the horse’s energy.
   b. The cecum is the primary site of water absorption.

3. The **Rectum** consists of the small colon and anus and receives feces that the small colon has formed.
   a. Feces are formed in characteristic balls.
   b. A horse on a standard diet of grain and hay voids 40-50 pounds of feces over the course of 8 to 12 times during the course of a day.

B. Digestion progression

1. The stomach makes up only 10% of the total capacity of the digestive tract.
   a. Food passes through the stomach in about 45 minutes.
   b. The stomach holds only 2-4 gallons.

2. The small intestine makes up 30% of the digestive tract capacity.
   a. Food passage takes from 2.5 to 4 hours.
   b. The small intestine holds about 12 gallons.

3. The large intestine makes up 50-60% of the total capacity of the digestive tract.
   a. Food passage takes from 36 to 48 hours.
   b. The combined capacity of the components of the large intestine is 30-35 gallons.
COURSE: EQUINE SCIENCE I

UNIT F: EQUINE MAINTENANCE

COMPETENCY: ES16.00 Demonstrate the benefits of a routine maintenance program.

OBJECTIVE: ES16.01 Discuss the benefits of grooming.

A. Timing of Grooming (IMS) 8897-A

1. Daily grooming may be required for show horses, boarding horses and horses used in a business, but all horses should receive grooming on a regular basis.

2. Some horsemen who own horses for pleasure groom their horse each time it is ridden; however, this can result in sporadic grooming.

3. The amount of time one has to manage a horse and devote to necessities such as grooming should be a major consideration in the decision to purchase a horse for business or pleasure.

4. Ideally, a horse should be groomed daily.

B. Advantages of Grooming (IMS) 8897-A

1. Regular grooming is essential for health, cleanliness and appearance.

2. Grooming is the only way to remove dirt, dust, grease and dead skin cells from a horse’s coat.

3. Grooming brings the skin’s natural oils to the surface and give the hair coat a glossy shine.

4. Regular grooming gives the horseperson time to get to know the horse.

5. Regular grooming helps the horse overcome fear, relax and become less nervous around people.

6. Regular grooming gives the horseperson the opportunity to check the horse for injuries and health problems.

7. Brisk brushing during grooming stimulates blood circulation and helps maintain a horse’s muscle tone.
A. Grooming Procedure

1. Basic technique when grooming the horse’s body includes:
   a. The groom talking softly to the horse to calm the horse.
   b. The groom always keeping one hand on the horse’s shoulder or hip to:
      1. Let the horse know where the groom is at all times.
      2. Help the groom get out of the way of a kick.

2. Hoof care is the first thing that many grooms attend to in the grooming procedure.
   a. Objects such as rocks left stuck in the hoof may cause bruises to the foot and result in lameness and should be removed with a hoof pick.
   b. Dirt left in the hoof can lead to a fungus disease called thrush and may be removed with a stiff brush.
   c. The hoof pick is inserted at the heel and pulled toward the toe of the hoof to avoid injury to the horse.

B. Steps in Body Grooming

1. Step one is currying to remove mud; loosen matted hair; massage the skin and underlying muscle; currying stimulates blood circulation and brings out the natural oils.
   a. Curry combs are available in hard rubber or metal but rubber is more desirable and less irritating to the horse’s skin.
b. The procedure for currying is to start on one side of the horse, and:

1. Work from the neck down the front leg of the horse to the knee;

2. Then curry the back, side, belly, crop and hind leg down to the hock;

3. Then repeat on the other side of the horse.

c. The proper currying technique is to use the comb in a circular motion to bring the dirt to the surface.

d. Curry combs should only be used on the fleshy areas of a horse.

e. Curry combs are cleaned by tapping on any hard object such as floor, wall, post, etc.

2. Step two is to brush the horse with the stiff brush or “dandy brush.”

a. The same order is followed as in currying.

b. The “dandy brush” is used with short, hard, snapping strokes brushing in the same direction of the hair growth.

c. The “dandy brush” is used over the entire body but must be used carefully on sensitive areas of the flanks, lower legs and head.

d. The “dandy brush” cleans down to the skin leaving the hair full of fine dust and dirt particle.

e. One favorite way to clean the “dandy brush” is by stroking against the curry comb.

3. Step three is to brush the horse’s entire body, including the head, with the soft brush.

a. The soft brush removes the dust and dirt that the “dandy brush” pulled out in the horse’s coat.

b. Again, brush with the direction of hair growth.

c. The soft brush must be cleaned every stroke or two as the brush can hold only a limited amount of dust.

d. The soft brush may be cleaned by brushing against a metal curry comb.

e. The soft brush makes the hair coat begin to shine.
4. Step 4 involved caring for the horse’s mane and tail.

   a. Tangles must be removed from the mane and tail.

      1. Mane and tail combs, human hairbrush or the fingers may be used for removing tangles.

      2. Some grooms prefer to remove tangles from this horse’s tails with their fingers to avoid pulling out any tail hairs; however, this is time consuming.

      3. A human hairbrush is a good compromise for brushing out the horse’s tail with a minimum hair loss.

      4. Detangling solution may help prevent pulling out hair.

   b. The mane may be shortened and thinned with a pulling comb to prepare show horses.

5. The final step in the grooming process is to wipe the entire coat with a grooming cloth.

   a. The grooming cloth is any soft, absorbent cloth.

   b. The grooming cloth is used by rubbing hard and long in the direction of hair growth.

   c. The grooming cloth polishes and places a shine on the horse bringing the natural oils from the skin.
COMPETENCY:  ES16.00  Demonstrate the benefits of a routine maintenance program.

OBJECTIVE:  ES16.03  Use proper grooming techniques on a live specimen.

*Use the material referenced in objective ES16.01 and ES16.02 to complete this objective.*
COURSE: EQUINE SCIENCE I

UNIT F: EQUINE MAINTENANCE

COMPETENCY: ES17.00 Consider special maintenance issues.

OBJECTIVE: ES17.01 Discuss the practice of bathing equine.

A. When to Bathe Horses (IMS) 8897-C

1. Some say never as bathing removes the natural oils from the hair and skin.

2. Most show horses are bathed a few days prior to a show so that they will have time to regain their gloss.

3. Too frequent use of soaps may lead to dry skin and a dull coat.

B. Fundamental of Bathing a Horse (IMS) 8897-C

1. To keep the horse from catching cold:
   a. Make sure the temperature is at least 50 degrees F.
   b. Bathe the horse so that there will be enough time to dry before nighttime.
   c. Cover the horse with a cooler (a large square of wool or acrylic material used to cover a horse from head to tail to help the horse when cooling down.).
   d. Use a sweat scraper to help the horse dry faster. The sweat scraper is a grooming tool useful for scraping sweat or water off a horse’s hide.

2. Use warm water to wet the skin, apply shampoo and rinse.
   a. If the horse is frightened by a water hose, use a sponge.
   b. Start shampooing behind the ears and move toward the tail.
   c. Scrub one section at a time.
   d. Keep washing and rinsing until the soapsuds stay white.
   e. Never allow soap or water to get in the horse’s ears.
   f. Always wash underneath the horse’s tail because sweat collects there and may cause irritation.
C. Periodic Bathing for the Stallion or Gelding

1. The sheath is the double fold of skin that covers a male horse’s penis.

2. Smegma is a cheesy, smelly, black secretion that combines with dust and dirt to accumulate on the outer portion of the sheath and interfere with urination.

3. Most male horse’s sheaths require cleaning at least four times per year.

4. Veterinarians or experienced horsemen can help with performing this procedure safely.
COURSE: EQUINE SCIENCE I

UNIT F: EQUINE MAINTENANCE

COMPETENCY: ES17.00  Consider special maintenance issues.

OBJECTIVE: ES17.02  Discuss the practice of blanketing equine.

A. When to Blanket Horses

1. Horses raised in confinement may need blankets during cold weather for warmth, but horses that stay outside usually do not need blankets because they are allowed to develop a winter coat.

2. Reasons for blanketing horses.
   a. Show horses are blanketed to protect their coats from sun bleaching in the summer.
   b. Show horses are blanketed and stall lights are used to stimulate summer conditions to “fool” the horse into early shedding in the spring.
   c. Show horses may be blanketed to keep them warm and prevent them from growing long winter coats.
   d. Blankets help keep the coat clean.
   e. Racehorses and performance horses are blanketed in cool weather to prevent them from cooling down too fast when “cooling out” after exercise or activity.

B. Proper use of blankets.

1. They must fit properly so as not to rub hair off the horse.
   a. Watch the shoulders, withers, chest and top of tail for signs of blanket rubbing.

2. The blanket or sheet weight is determined by weather conditions and the needs of the horse.
   a. The blanket should be heavy enough to keep the horse warm.
   b. The sheet should be light enough to prevent the horse from sweating.
COURSE: EQUINE SCIENCE I

UNIT F: EQUINE MAINTENANCE

COMPETENCY: ES17.00  Consider special maintenance issues.

OBJECTIVE: ES17.03  Bathe and blanket an equine.

Use the material referenced in objective ES17.01 and ES17.02 to complete this objective.
COURSE: EQUINE SCIENCE I

UNIT G: EQUINE SELECTION

COMPETENCY: ES18.00 Explain skills necessary to make wise selection of equine.

OBJECTIVE: ES18.01 Interpret variables that determine which equine is best for an equine enterprise.

A. The Specific Purpose for Which the Horse Will be Used is one of the Most Important Factors to Consider When Selecting a Horse. Uses are Grouped in Five Categories.

1. Pleasure – Horses kept for trail riding and the joy of horse ownership.

2. Breeding – Horses kept for the purposes of breeding and reproduction in an equine business.

3. Working stock – Horses kept for work purposes such as rounding up cattle on a ranch.

4. Show – Horses kept for competition at halter (judged based on conformation) or under saddle (judged based on its patterns of movement) This applies to horses owned as a business or pleasure.

5. Sport – Horses kept for racing, rodeos, jumping and game type events, primarily as a business.

B. Age and Size

1. A general rule in determining size is that a horse should not be expected to carry more that twenty percent of its own body weight. A 1000-pound horse should not be expected to carry more than a 200-pound person.

2. The age of a horse should vary with the experience of the rider with the older horses being more suited to inexperienced riders.
C. Price is the main consideration for many people purchasing pleasure horses.
   1. Average horses fluctuate more on price than outstanding horses.
   2. Fall and early winter is the best time of year to find the best selection of average horses for a good price.
   3. Practice moderation when pricing a pleasure horse as $1,500-$3,000 can usually purchase a good horse contingent upon training.

D. The temperament of a horse should match the experience of the person for whom the animal is being selected and the primary purpose for which the horse is being used.
   1. Example: Frequently a racehorse will have a more nervous disposition than a trail horse.
   2. Paints are usually more docile than Arabians.
   3. An ill-tempered horse will typically pin its ears back, flare its nostrils and show white around its eyes.
   4. Observing the horse’s body language and examining the stall, fences, etc. for chew or bite marks can help identify a horse with an undesirable disposition.

E. Amount of Training
   1. Those who have little experience with horses should select a well-trained horse, but training depends mostly on the purpose for which the animal will be used.
      a. Experience is equally important to age.
      b. Prospective buyers lacking in riding experience should take riding lessons for a minimum of 30 days prior to purchasing a horse.

F. Pedigree and performance records
   1. Pedigree records look at a horse’s ancestry to evaluate potential for horses being selected at a young age for breeding purposes, or to determine the price or value of animals of comparable individual merit.
   2. Performance records may be used to choose a horse for a particular purpose.
COURSE: EQUINE SCIENCE I

UNIT G: EQUINE SELECTION

COMPETENCY: ES18.00 Explain skills necessary to make wise selection of equine.

OBJECTIVE: ES18.02 Discuss conformation characteristics of equine.

A. The Importance of Conformation

1. Conformations is the pleasing physical appearance of an animal as a result of the balanced arrangement of muscle, bone and other body tissue.

2. Conformation determines the ease, freedom and direction of leg movement and is related to a horse’s performance potential.

3. Defects in conformation make a horse more inclined to develop certain types of unsoundness.

B. Mechanics of evaluating conformation

1. Observe the horse from a distance to obtain an overall picture of the animal.

2. Evaluate the animal in motion to observe the action of the animal. Closely inspect the animal for blemishes or abnormalities.

3. Use a logical method to make the evaluation moving from the side view; to the front view; to the rear view; to tracking movement and finally making a close inspection of the horse.

C. Considerations in evaluating conformation

include:

1. Quality of attractiveness of the horse demonstrated by the carriage of the head and neck and alert ears.

   a. The attractive head should have:

      1. a triangular shape when viewed from the front and side so that the horse has a good visual field and balance.

      2. short, well set ears.

      3. large, bold eyes, large nostrils.
4. a short distance from the eyes to the muzzle.

5. sex and breed characteristics.

b. The neck should be long, trim, blending smoothly into the shoulder and tie high into the chest.

1. A trim and refined throatlatch.

2. The depth of the throatlatch usually equals one half of the length of the head.

2. The balance or way the horse’s body blends together is often considered the most important characteristic to consider in selection.

a. Balance forms the basis for movement, length of stride and conformation.

b. The slope of the shoulder is the most critical factor affecting balance.

c. A side view of a well-balanced horse reveals three equal sections from front to rear.

1. The “shoulder region” runs from the point of the shoulder to a line perpendicular to the withers.

2. The “back region” is the distance from the base of the withers to the beginning of the croup.

3. The “hip region” runs from the flank to the point of the buttocks.

d. In addition to three equal regions, a well balanced horse should have a:

1. long sloping shoulder.

2. short, strong back in relation to a long underline.

3. long, relatively level croup.
e. A well-balanced horse from the withers to the ground is also important.

1. The horse should be level from the withers to the croup (the topline).
   a. The withers and the croup should be about equal distance from the ground.
   b. One means of measuring is to imagine a line drawn from the elbow to the stifle. The imaginary line should be parallel with the ground.

2. The distance from the withers to the girth should be about equal distance from the girth to the ground.

3. Muscling should be long, smooth and well defined in the chest, back, loin and hindquarter.

4. Structural correctness (IMS) 8893-B, pp. 8-12
   a. Horses should have straight, sound legs.
   b. It is important that the knees and hocks be in the lower half of the horse’s leg.
   c. The “arm” should be short in relation to the shoulder length.
   d. The “forearm” should be long and tie deep into the knees to allow long strides.
   e. The cannon bone should be short compared to the forearm to increase the horse’s stability and length of stride.
COURSE: EQUINE SCIENCE I

UNIT G: EQUINE SELECTION

COMPETENCY: ES18.00 Explain skills necessary to make wise selection of equine.

OBJECTIVE: ES18.03 Describe factors that influence the value of equine.

A. Blemishes and Unsoundness of Horses (IMS) 8893-C

1. A blemish is an injury or defect that might affect a horse’s value but not its ability to perform its required function.
   a. A blemish may be ugly but will not prevent the horse from doing its job.
   b. Examples of blemishes include: wire cuts, rope burns, capped hock and shoe boil.

2. Unsoundness are injuries or abnormalities that affect the ability of the horse to perform its required function.
   a. Most unsoundness drastically reduces a horse’s value.
   b. Examples of unsoundness include: blindness, stifled founder and heaves.

B. Signs of Lameness

1. Head goes up when lame forelimb strikes the ground with exception of shoulder lameness, which is very rare.

2. Horses lame on both forelimbs are characterized by a shortened, stilted gait rather than head nodding (bobbing).

3. Hip is hiked up when lame rear limb strikes the ground, and head tends to drop when lame rear limb strikes the ground.

4. Attitude, willingness to go forward and expression can be important indicators.
C. Obvious Lameness

Horse Judging Shortcourse
Dr. Bob Mowrey, Extension Horse Specialist, NC State University

1. Consistently observable at a trot under all circumstances.
2. Marked nodding, hitching or shortened stride.
3. Minimal weight-training in motion and/or rest and inability to move.
COURSE: EQUINE SCIENCE I

UNIT G: EQUINE SELECTION

COMPETENCY: ES19.00 Develop skills necessary to make wise selection of equine.

OBJECTIVE: ES19.01 Interpret signs of a healthy equine.

A. General signs of good health

1. A horse should show alertness and an inquisitive nature if it is healthy. Horses that are alert can be distinguished by the brightness of their eye, the way they hold their head, and the position of their ears.

2. Horses that isolate themselves from other horses are often ill or hurt.

3. The hair coat should be shiny and glossy.

4. Eyes should be bright, fully open, and clear without any discharge.

5. Heart rate should be 32 to 48 beats per minute for an adult horse at rest, but each horse will have a normal range for that horse.

6. An adult horse at rest should take 8 to 16 breaths per minute. Extreme differences in respiration rate may indicate a problem if the horse is at rest.

B. Normal Body Condition

1. Body condition refers to the amount of fat that covers the body.

2. Healthy horses show good body condition.
A. Rationale for Body Condition Scoring

1. Developed to determine reproductive efficiency in mares
2. Found to be a good determinant of any healthy equine
3. Varies with the use of the equine

B. Use of Body Condition Scoring

1. Scoring system is based on a scale of 1 - 9.
2. Evaluates fat (finish) cover in six basic areas of equine.
3. Scores lower than 4 or higher than 6 can be an indication of health problems unless the horse for that discipline normally carries a high or low score.
4. Low numbers of 1 to 2 indicate very thin or poorly conditioned animals. These animals have dairy characteristics with the hook and pin bones protruding.
5. Animals rated as 3 or 4 are still considered thin to moderately thin by horse conditioning standards.
6. An animal with a rating of 5 has moderate conditioning. The back is flat, ribs are not distinguishable, but easily felt.
7. Animals rated 6 or 7 are moderate to fleshy. Fat over the ribs may feel spongy and animals are putting on more fat.

8. Condition scores of 8 or 9 indicate fat or extremely fat animals.

9. Most horses should score between 4 and 6, but it does vary according to discipline or use of the animal.

Suggested Condition Scores for Different Disciplines or Uses

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dressage</td>
<td>6-8</td>
</tr>
<tr>
<td>Endurance</td>
<td>4-5</td>
</tr>
<tr>
<td>Eventing</td>
<td>4-5</td>
</tr>
<tr>
<td>Hunter/Jumper</td>
<td>5-7</td>
</tr>
<tr>
<td>Mare (Open)</td>
<td>4-6</td>
</tr>
<tr>
<td>Mare (Pregnant)</td>
<td>7-8</td>
</tr>
<tr>
<td>Polo</td>
<td>4-5</td>
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<tr>
<td>Pony</td>
<td>7-8</td>
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<tr>
<td>Quarter Horse</td>
<td>6-8</td>
</tr>
<tr>
<td>Racing (Standardbred)</td>
<td>4-6</td>
</tr>
<tr>
<td>Racing (Thoroughbred)</td>
<td>5-7</td>
</tr>
<tr>
<td>Ranch Work</td>
<td>4-5</td>
</tr>
<tr>
<td>Show Hack</td>
<td>6-8</td>
</tr>
<tr>
<td>Stallion (breeding)</td>
<td>5-7</td>
</tr>
<tr>
<td>Stallion (off season)</td>
<td>4-6</td>
</tr>
</tbody>
</table>

### Body Condition Scoring: Adapted from Hennke, 1983

<table>
<thead>
<tr>
<th>SCORE</th>
<th>APPEARANCE</th>
<th>DESCRIPTION for Six areas where finish or lack of finish (fat buildup) is most observed</th>
</tr>
</thead>
</table>
| 1     | Poor or Extremely Thin          | 1. **Down the Crease of the Back** – Backbone is prominent  
                                        2. **Over the Ribs** – Ribs are easily seen and very prominent  
                                        3. **Fat covering the Neck** – No fat is present. The neck is hollow and extremely thin  
                                        4. **Behind the shoulders at the girth** – One can see the bones and feel them under the skin  
                                        5. **Fat covering the withers** – One can see the bones and feel them under the skin  
                                        6. **At and around the tail head** – Tail head is easily seen (dairy in character) |
| 2     | Very Thin                       | 1. **Down the Crease of the Back** – Backbone is not quite as prominent as in Poor  
                                        2. **Over the Ribs** – Ribs stand out but are not quite as prominent as in Poor  
                                        3. **Fat covering the Neck** – No fat is present. The neck is hollow and extremely thin but to a lesser degree than Poor  
                                        4. **Behind the shoulders at the girth** – One can see the bones and feel them under the skin but not quite as prominent as in Poor  
                                        5. **Fat covering the withers** – Slight fat, however, one can see the bones and feel them under the skin  
                                        6. **At and around the tail head** – Tail head is easily seen (dairy in character) |
| 3     | Thin                            | 1. **Down the Crease of the Back** – Some fat is evident about ½ way up the backbone  
                                        2. **Over the Ribs** – A slight layer of fat can be felt over the ribs, but they can easily be seen.  
                                        3. **Fat covering the Neck** – The neck appears thin  
                                        4. **Behind the shoulders at the girth** – The shoulder appears thin  
                                        5. **Fat covering the withers** – The withers appear thin  
                                        6. **At and around the tail head** – Tail head is still prominent, but individual bones cannot be seen – hip bones are not visible |
| 4     | Moderately Thin                 | 1. **Down the Crease of the Back** – A negative crease along the back  
                                        2. **Over the Ribs** – The outline of the ribs can be faintly seen  
                                        3. **Fat covering the Neck** – The neck is not obviously thin, fat beginning to deposit  
                                        4. **Behind the shoulders at the girth** – The shoulder is not obviously thin, fat beginning to deposit  
                                        5. **Fat covering the withers** – The withers is not obviously thin, fat beginning to deposit  
                                        6. **At and around the tail head** – Fat can be felt around the tail head |
<table>
<thead>
<tr>
<th>Score</th>
<th>Appearance</th>
<th>DESCRIPTION for Six areas where finish or lack of finish (fat buildup) is most observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Moderate</td>
<td>1. <strong>Down the Crease of the Back</strong> – Back is level, no crease exist.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. <strong>Over the Ribs</strong> – Ribs can be felt, but not easily seen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. <strong>Fat covering the Neck</strong> – The neck has enough finish to blend smoothly into the shoulders.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. <strong>Behind the shoulders at the girth</strong> – The shoulder has enough finish to blend smoothly into the body.</td>
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<tr>
<td></td>
<td></td>
<td>5. <strong>Fat covering the withers</strong> – Withers are rounded due to flesh covering.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. <strong>At and around the tail head</strong> – Fat around the tail head is beginning to feel spongy</td>
</tr>
<tr>
<td>6</td>
<td>Moderately Fleshy</td>
<td>1. <strong>Down the Crease of the Back</strong> – A slight crease exist.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. <strong>Over the Ribs</strong> – Fat over the ribs feels spongy.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. <strong>Fat covering the Neck</strong> – Small deposits of fat are present on the neck.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. <strong>Behind the shoulders at the girth</strong> – Small deposits of fat are present.</td>
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<tr>
<td></td>
<td></td>
<td>5. <strong>Fat covering the withers</strong> – Small deposits of fat is present.</td>
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<td></td>
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<td>6. <strong>At and around the tail head</strong> – Fat feels soft.</td>
</tr>
<tr>
<td>7</td>
<td>Fleshy</td>
<td>1. <strong>Down the Crease of the Back</strong> – The crease down the back can be seen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. <strong>Over the Ribs</strong> – Ribs can be felt, but fat between the ribs is obvious.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. <strong>Fat covering the Neck</strong> – The neck has noticeable fat deposits.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. <strong>Behind the shoulders at the girth</strong> – The shoulder has noticeable fat deposits.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. <strong>Fat covering the withers</strong> – The withers has noticeable fat deposits.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. <strong>At and around the tail head</strong> – Fat feels soft.</td>
</tr>
<tr>
<td>8</td>
<td>Fat</td>
<td>1. <strong>Down the Crease of the Back</strong> – Prominent crease down the back.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. <strong>Over the Ribs</strong> – Ribs difficult to feel due to fat.</td>
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<td></td>
<td></td>
<td>3. <strong>Fat covering the Neck</strong> – There is a noticeable thickening of the neck due to fat covering.</td>
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<tr>
<td></td>
<td></td>
<td>4. <strong>Behind the shoulders at the girth</strong> – The areas is filled in flush with the barrel of the body.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. <strong>Fat covering the withers</strong> – Withers is filled with fat.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. <strong>At and around the tail head</strong> – Fat around the tail head is very soft and there is fat deposited along the inner buttocks.</td>
</tr>
<tr>
<td>9</td>
<td>Extremely Fat</td>
<td>1. <strong>Down the Crease of the Back</strong> – Very prominent crease down the back.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. <strong>Over the Ribs</strong> – Cannot feel the ribs for patches of fat.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. <strong>Fat covering the Neck</strong> – There is bulging fat over the neck.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. <strong>Behind the shoulders at the girth</strong> – The area is bulging with fat.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. <strong>Fat covering the withers</strong> – Withers is bulging with fat.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. <strong>At and around the tail head</strong> – Bulging fat around the tail head; Fat along the inner buttocks may rub together; Thee flank is filled in flush with the barrel of the body.</td>
</tr>
</tbody>
</table>
COURSE: EQUINE SCIENCE I

UNIT H: TACK AND EQUIPMENT NEEDS

COMPETENCY: ES20.00 Evaluate the use of bridles and halters on equine.

OBJECTIVE: ES20.01 Identify the major types of halters and bridles.

A. Major types of halters (IMS) 8899-A

1. Leather halters may be the safest halter for horses in pastures because they will break if caught on an object.
   
   a. Leather halters are attractive and often used for show halters as silver decorations may be added.
   
   b. Leather halters are durable if they are cared for properly by cleaning with mild soap and oiled afterward.

2. Nylon web halters are good halters for restraining horses as they do not break easily; but may cause injury if a loose horse gets caught.
   
   a. Nylon web halters are inexpensive and durable.

   b. Nylon web halters are attractive and easy to care for.

3. Rope halters may be nylon or cotton and are primarily used on farms and ranches.
   
   a. Rope halters are inexpensive and easy to care for but often break rather easily.
   
   b. Rope halters are not as attractive as leather or nylon web halters.

   c. The popularity of rope halters has diminished.

B. Two major types of bridles (IMS) 8899-A

1. The western bridle has a set of reins, a curb bit, a curb chain and a headstall consisting of a cheek piece, a crown piece and throat latch.
   
   a. A curb bit must have shanks and a curb strap or chain.

   b. Some western bridles also have a sliding ear piece, or a browband to help hold the bridle in place.
2. The Eastern bridle comes in three major types.

   a. The snaffle bridle is the simplest form of an Eastern bridle.
      
      1. The snaffle bridle has a snaffle bit.
      
      2. The snaffle bridle is similar to a western bridle that includes a brow band except the brow band (canesson) is separate from the bridle and the bit used is a snaffle bit.

   b. The full or Weymouth bridle is also known as a double bridle.
      
      1. The Weymouth bridle includes a snaffle bit, reins, cheek pieces and crownpiece with an additional headstall with brow band, curb bit, curb chain, lip strap and reins placed on top.
      
      2. The Weymouth bridle uses both a snaffle and curb bit together.

   c. The Pelham bridle is similar to a snaffle bridle, except that:
      
      1. A Pelham bridle has two sets of reins which attach to the Pelham bit (A combination of a snaffle and curb bit)
      
      2. The Pelham bridle includes a curb chain and lip strap.
COURSE:       EQUINE SCIENCE I
UNIT H:       TACK AND EQUIPMENT NEEDS
COMPETENCY:  ES20.00   Evaluate the use of bridles and halters on equine.
OBJECTIVE:   ES20.02   Explain how halters and bridles are used.

A. Uses of Halters  (IMS) 8899-A
1. A halter is a simplified bridle without a bit or reins.
2. Halters are useful for leading, tying and restraining horses.
3. A properly fitting halter should fit snug but allow enough room for the horse to breathe.
4. The noseband of a properly fitting halter should lie about two inches below the horse’s cheek bones. These should be about 2 inches between the noseband and jawbones of a properly fitting halter.

B. Uses of Bridles  (IMS) 8899-A
1. The function of the bridle is to hold the bit in the correct place of the equine’s mouth so that the rider/driver has control without irritating the equine’s mouth.
2. An Eastern bridle using a snaffle bit may have a jointed or solid mouthpiece that works with direct action on a horse’s mouth.
3. A bridle that uses a curb bit works with leverage action on a horse’s mouth.
4. The type of bridle to use will depend on the style of riding, temperament and training of the horse, and the sensitivity of the horse’s mouth.
   a. A stock horse requires a Western bridle.
   b. Well trained English horses with sensitive mouth require snaffle bridles.
   c. Polo ponies generally require a Pelham bridle.

C. Care of halters and bridles
1. Leather should be washed with mild detergent and oiled after they dry.
2. Discard worn halters and bridles.
COURSE: EQUINE SCIENCE I

UNIT H: TACK AND EQUIPMENT NEEDS

COMPETENCY: ES20.00 Evaluate the use of bridles and halters on equine.

OBJECTIVE: ES20.03 Place a halter and bridle on equine.

A. Haltering (IMS) 8900-A

1. Pre-haltering steps
   a. Failure in haltering most often occurs because the halter is not ready prior to approaching the equine.
   b. The halter should be unbuckled with the bridle and crownpiece held in the left hand.
   c. A lead rope may be held with the halter.
   d. Approach the equine softly (correct angle and speaking softly).
   e. Rub the equine’s neck.
   f. Place the lead rope around the equine’s neck.

2. Applying the halter
   a. Reach over the equine’s neck with the right hand.
   b. Pass the crownpiece (held in the left hand) under the equine’s neck and grasp it with the right hand.
   c. Keep the buckle in the left hand.
   d. Slip the noseband over the nose.
   e. Quietly buckle the halter.
B. Bridling

1. Basic Bridling (IMS) 8900-E
   a. Bridling technique is different from haltering as the bridle is pulled over the horse’s face.
   b. Bridling should be performed after saddling.

2. Applying the bridle
   a. Hold the crownpiece in the right hand and gently pull it over the horse’s nose/muzzle, while
   b. Using the thumb and forefinger of the left hand between the bars of the equine’s mouth to encourage the animal to open its mouth, or
   c. Using the left hand to guide the bit being careful not to bang the bit against the equine’s teeth.

3. After the bit is in the mouth
   a. Adjust the bit so there are not more than one or two wrinkles in the corners of the equine’s mouth.
   b. Adjust the throatlatch strap so 3 or 4 fingers will fit between it and the equine’s jaw.
   c. Adjust the noseband and curb strap according to directions for that particular bridle.

4. Removing the bridle
   a. Use the left hand to hold down and tuck in the equine’s face, while
   b. Gently sliding the bridle off over the head with the right hand.
COURSE: EQUINE SCIENCE I

UNIT H: TACK AND EQUIPMENT NEEDS

COMPETENCY: ES21.00 Evaluate the use of bits on equine.

OBJECTIVE: ES21.01 Describe the major types of bits.

A. Snaffle Bits (IMS) 8899-B

1. A snaffle bit is a mouthpiece with rings on each end for attaching reins.
   a. Snaffle bits may have solid or jointed mouthpieces.
   b. The rings of the mouthpiece must be large enough or have additional cheek pieces to prevent the bit from being pulled through the mouth when one ring is pulled.

2. Snaffle bits put pressure mainly on the corners of the horse’s mouth with some additional pressure on the tongue and bars (space between the horse’s incisors and molars).

B. Curb Bits (IMS) 8899-B

1. A curb bit is a mouthpiece with shanks at each end for attaching reins.
   a. Curb bits may have a jointed or solid mouthpiece.
      1. The solid mouthpiece may have a raised portion in the middle called a port.
      2. The larger the port, the more pressure placed on the roof of the mouth of the horse.
   b. The shanks of a curb bit act along with the chain strap or chain to create leverage action when the reins are pulled.

2. Curb bits exert pressure on the bars, tongue, corners and possibly roof of the mouth as well as to the chin and poll of the horse.
C. Combination Bits

1. The three basic combination bits are the Kimberwicke bit, the Pelham bit and the Weymouth set.

   a. The Kimberwicke bit replace the rings of the basic snaffle bit with a D-shaped ring with slots for the attachment of cheek pieces and the curb chain.

      1. The curb chain and D-shaped rings act as a short shank for exerting mild pressure on the horse’s chin.

      2. The Kimberwicke bit gives more control than an ordinary snaffle while still using just one set of reins.

   b. The Pelham bit is a snaffle bit with rings that also has a shank with rings for the attachment of a second set of reins.

      1. Reins are attached to the snaffle ring to provide direct pressure to the mouthpiece.

      2. Reins are attached to the shank ring to provide lever action and curb pressure on the horse.

      3. Pulling both sets of reins at the same time gives direct action to the snaffle bit.

      4. The Pelham bit allows the rider to use direct action or curb action, but not at the same time.

   c. The Weymouth set includes both a snaffle bit with rings and a curb bit with shank and rings.

      1. Two sets of reins are used to provide direct pressure and/or curb pressure.

      2. Direct snaffle action and leverage curb action may be used individually or together.
d. Hackamore bit (mechanical hackamore) works with leverage action to apply pressure to the horse’s nose, chin and poll.

1. The hackamore bit has no mouthpiece.

2. The longer the shanks of the hackamore bit, the more pressure that can be applied to the nose and chin.

3. The true hackamore does not have shanks like a hackamore bit.
   a. The true hackamore applies direct pressure on the nose and chin with a bosal.
   b. Popular materials from which to make bosals are rope, horsehair and braided rawhide.
COURSE: EQUINE SCIENCE I

UNIT H: TACK AND EQUIPMENT NEEDS

COMPETENCY: ES21.00 Evaluate the use of bits on equine.

OBJECTIVE: ES21.02 Explain advantages for using different bits.

A. How Bits Work (IMS) 8899-B

1. All bits act on one or more pressure points on a horse’s head in such a way that the horse will respond to relieve the pressure.

2. The seven pressure points include the poll, nose, lips, chin, tongue, bars and roof of the mouth.

3. Bits may exert direct pressure or leveraged pressure.

B. Factors Affecting the Bit’s Effectiveness (IMS) 8899-B

1. The smaller the diameter of the bit mouthpiece; the more pressure the bit exerts on the horse’s mouth.

2. The rougher the texture of the bit mouthpiece; the more pressure the bit exerts on the horse’s mouth.

3. A larger diameter bit mouthpiece with a rubber covering puts little pressure on the horse’s mouth and is considered a very mild bit.

4. The longer the length of the shank on the western bit; the more pressure that is exerted on the horse’s mouth.

5. The proper use of the reins by the rider has a direct impact on the effectiveness of the bit.

C. Uses of Individual Bits (IMS) 8899-B

1. Snaffle bits are often used to train young stock horses.

2. Curb bits are commonly used on adult western horses (including stock horses).

3. Combination bits are preferred for English-style riding.
   a. Kimberwicke bits give more control than straight snaffle.
   b. Pelham bits give more control than snaffle or Kimberwicke bits.
   c. Weymouth bits are primarily used for gaited horses, upper level dressage, and sometimes hunters because they give maximum control.

4. The hackamore bit is useful on horses with mouth injuries and on horses who will not receive a traditional bit.

5. Hackamores are popular for training young horses.
COURSE: EQUINE SCIENCE I

UNIT H: TACK AND EQUIPMENT NEEDS

COMPETENCY: ES21.00 Evaluate the use of bits on equine.

OBJECTIVE: ES21.03 Inspect a bit for proper placement.

Use material referenced in Objectives ES21.01 and ES21.02 to accomplish this objective.

This is supplemental material to be developed at the discretion of each individual teacher.
COURSE:       EQUINE SCIENCE I  
UNIT H:   TACK AND EQUIPMENT NEEDS  
COMPETENCY:  ES22.00  Evaluate saddles for equine.  
OBJECTIVE:  ES22.01  Identify major parts of saddles.  

A. Western saddle  
   
1. The tree of a western saddle  
   a. The tree is also called the frame because it provides the structure of the saddle.  
   b. The tree (frame) may be wood, aluminum, steel or fiber glass that has leather, suede or some other suitable material wrapped over it.  
   c. The tree consists of the fork, horn, bars and cantle.  

2. Basic parts of the western saddle  
   a. The bars provide support and shape the saddle to the horse’s back.  
   b. The fork forms the front of the saddle seat that supports the pommel, horn, and includes the gullet and swells.  
      1. The gullet is the space formed by shaping the fork and helps the saddle fit to the shape of the equine’s back. 
      2. The swells are the area on either side of the horn mount. 
   c. The pommel is the front part of the saddle that consists of a horn of varying size useful in roping or for holding on.  
   d. The cantle is the back part of the seat which helps the rider maintain a “deep seat.” 

3. Fittings for the western saddle (may or may not be sold with the saddle)  
   a. The stirrups assist the rider in mounting and dismounting and help the rider maintain balance while riding.  
   b. Stirrup leathers attach the stirrups to the bars of the saddle and allow for the stirrup height to be adjusted.  
   c. The girth goes underneath the horse’s belly and is used to hold the saddle on the horse.
1. The girth is also called the **cinch** on Western saddles.

2. Western saddles have a front and flank (rear) girth.

3. Girths are made of various materials such as leather, vinyl, webbed nylon cord, mohair, cotton, synthetic fleece, etc.

4. Front girths are frequently made of chincha cord. Chincha cord is pure cotton, pure mohair, or a combination of rayon and mohair.

5. Rear girths are also called the flank girth or cinch. Rear cinches are usually made of leather.

d. Billet straps are used to attach the girth (cinch) for the “Dee” rings of the saddle. (Western saddles have three billets on each side.)

e. The saddle pad (blanket) protects the equine’s back, absorbs sweat and moisture, protects the saddle, and helps the saddle fit better.

1. Traditional size is 30” x 60”

2. There are many types of material including sheepskin, blended fiber, Navajo “wool” blankets, cotton, etc.

B. **English saddles**

   (IMS) 8899-D,
   HIH 1100 pg 3 - 4

1. The tree of the eastern saddle

   a. The frame or tree of the saddle consist of laminated plywood, fiberglass, steel or a combination of these materials. English saddles are covered with a variety of materials such as leather, synthetic material, felt, pigskin, etc.

   b. There are two basic types of trees for English saddles.

      1. The rigid tree is a frame without steel straps under the seat. The rigid tree is usually is used for saddle-seat saddles.

      2. The spring tree has two strips of steel that run directly under the seat of the saddle and act as springs.
2. Basic parts of the eastern saddle
   a. Many parts of a Western saddle exist in some variation or form on Eastern saddles.
   b. The pommel is the forward part of an English saddle and is without a horn.
   c. The girth is a single strap that goes underneath the horse’s belly to hold the saddle on the horse.
   d. The stirrup bar is used to attach the stirrup strap to the saddle.
   e. Panels are padding under the tree to cushion the horse’s back.

3. Fittings for the eastern saddle
   a. Many of the same fittings are available in some form on western saddles.
   b. Stirrup leathers, stirrup irons, and girth are not usually included in the price of an eastern saddle.
A. English saddles

1. Two basic types of English saddles
   a. Saddle seat saddles have a relatively flat seat that places the rider well behind the withers and just behind the center of the horse.
      1. Riders use these saddles on the “flat”, which means they do not use them for jumping.
      2. Saddle seat saddles are used in the show ring and most often for riding “single-foot” or gaited breeds and Arabians.
      3. Many are called “cut-back” saddles because the pommel or head is usually cut back to accommodate the high withers and show off the animated action and arched neck of gaited horses such as American saddle bred and Tennessee walkers.
   b. Hunt or Forward-seat saddles are more popular with United States riders.
      1. This saddle is used by hunters and jumpers because it is designed to eliminate rider interference with the horse when jumping.
      2. Used with Quarter horses, Thoroughbreds, the Warmblood breeds, Paints, Appaloosas and others

2. Examples of English saddles
   a. The MOST popular Hunt seat saddle is the All-purpose saddle. This saddle is a good beginning saddle because it can be used for many different riding activities such as eventing, equitation, pleasure, and trail riding.
   b. The Close contact saddle is a Hunt seat saddle used for jumping. It is very seldom used for equitation or flat work. This saddle allows close contact with the equine so that the rider may have maximum control.
   c. The dressage saddle is a Hunt seat saddle that is a cross between the forward and saddle-seat saddle designed specifically for dressage events so that the rider’s legs has maximum side contact with the horse.
d. The racing saddle is an extremely lightweight Hunt seat saddle (1 1/2 pounds without stirrups) used by jockeys for racing.

e. Polo saddles are modified Hunt seat saddles for trail riding, elementary jumping, dressage and polo.

B. Western saddles

1. Basics of Western saddles

   a. Most Western saddles are produced in the United States

   b. Unlike English saddles, a good basic Western saddle can be used for many rent activities.

   c. The MOST important thing with any Western saddle is that it fit the equine properly across the withers. One should be able to insert two fingers between the fork of the saddle and the equine’s withers with the saddle cinch girth drawn tight on a properly fitting Western saddle.

2. Examples of western saddles

   a. General purpose saddles weigh 30-35 pounds and are the most common saddles ideally suited for pleasure and trail riding. Pleasure/trail riding saddles as they are often called are designed for one primary purpose: comfort of the rider.

   b. Roping saddles weigh 38-55 pounds and are large, heavy duty saddles with a large horn useful for stock work.

   c. Equitation (Western Pleasure) saddles are saddles with heavy ornamentation used for shows and parades. This saddle is usually quite heavy.

   d. Bronc saddles are designed to allow the rider freedom of movement necessary for bucking horses in rodeos.

   e. Bareback rigs are sturdy pieces of leather often used in the place of bronc saddles that feature a “handhold” without the use of stirrups.

   f. Endurance saddles are very lightweight saddles usually made of synthetic material to provide comfort for the horse and rider over long distances.

   g. Other western saddles include the Reining, Cutting, and Barrel Racing saddles designed for specific task.
COURSE: EQUINE SCIENCE I
UNIT H: TACK AND EQUIPMENT NEEDS
COMPETENCY: ES22.00 Evaluate saddles for equine.
OBJECTIVE: ES22.03 Saddle an equine.

Use the material referenced in objective ES20.00, ES21.00 and ES22.00 to complete this objective.

This is supplemental material to be developed at the discretion of each individual teacher.
COURSE: EQUINE SCIENCE I
UNIT I: EQUITATION
COMPETENCY: ES23.00 Perform English equitation.
OBJECTIVE: ES23.01 Describes types of English equitation.

This is supplemental material to be developed at the discretion of each individual teacher.

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COURSE: EQUINE SCIENCE I
UNIT I: EQUITATION
COMPETENCY: ES23.00 Perform English equitation.
OBJECTIVE: ES23.02 Mount equine using English tact.

This is supplemental material to be developed at the discretion of each individual teacher.

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COURSE: EQUINE SCIENCE I
UNIT I: EQUITATION
COMPETENCY: ES23.00 Perform English equitation.
OBJECTIVE: ES23.03 Ride equine using English equitation.

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