



Universidad
de Huelva

ESCUELA TÉCNICA SUPERIOR DE INGENIERIA

GENERAL SPECIFICATIONS

Course 23/24

Subject Data

Name:

Producción Equina

English name:

Equine production

Code:

606110316

Type:

Elective

Hours:

	Total	In class	Out class
Time distribution	150	60	90

ECTS:

Standard group	Small groups			
	Classroom	Lab	Practices	Computer classroom
3.7	1.2	0	1.1	0

Departments:

Agroforestry Sciences

Knowledge areas:

Animal Production

Year:

4 th

Semester

1 st

ANEXO I**TEACHING STAFF**

Name:	E-mail:	Telephone
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Others Data (Tutoring, schedule...)

Office P4 N6 09 (Experimental Sciences Faculty)

Monday : 16:30 – 19:30

Tuesday : 18:00 – 21:00

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SPECIFIC INFORMATION OF THE COURSE

I. Contents description:

1.1 In English:

- Current status and prospects of breeding horses, donkeys and mules
- Breeds of horses and donkeys
- The equine reproduction. Hybridization
- Equine selection
- Food and Nutrition
- Housing
- Equine Production Systems
- Equine meat
- Management of the equine species
- Equine pathology

1.2 In Spanish:

- Situación actual y perspectivas del ganado caballar, asnal y mular
- Razas de caballos y asnales
- La reproducción en equino. Hibridación
- Selección equina
- Alimentación y nutrición
- Alojamientos
- Sistemas de producción equina
- Equino de carne
- Manejo de la especie equina
- Patología equina

2. Background:

2.1 Situation within the Degree:

It is an elective Subject of the Agricultural Exploitation Itinerary in Agricultural Engineering .

It complements the knowledge acquired in the basic training subject Basic principles of Animal Production and the subject Monogastric Production

2.2 Recommendations

It is convenient and highly recommended to have a background in the subjects: Basic principles in Animal Production and Monogastric Production.

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3. Objectives (as result of teaching, or skills or abilities and knowledge):

- Provide information on the current situation of regional, national and international Equine production and the economic and social importance of the species.
- Know the functional and morphological characteristics of the animal and the main breeds and their potentialities
- Efficiently manage the reproduction of horses, implementing current techniques of Assisted reproduction
- Clearly understand the animal selection process in reference to environment and function of them, as well as identify the factors that affect this process
- Efficiently manage the feeding of horses based on their digestive physiology, age and productive activity
- Know the management practices of equines including the management of the foal
- Provide information on the design of accommodation for equines based on the type of animal
- Know the equine production systems including meat equine
- Know the main pathologies of horses and establishment of a health program

4. Skills to be acquired

4.1 Specific Skills:

4.2 General, Basic or Transversal Skills:

G04: Ability to apply knowledge in practice.

G05: Ability to work in a team.

G07: Analysis and synthesis capacity.

G17: Capacity for critical reasoning.

G02: Ability to make decisions

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5. Training Activities and Teaching Methods

5.1 Training Activities:

- Theory sessions on the contents of the program
- Practice sessions in specialized laboratories or in computer rooms
- Field sessions of approximation to industrial reality
- Academically Directed Activities by the Faculty: seminars, conferences, development of assignments, debates, group tutorials, evaluation and self-assessment activities...
- Individual/autonomous work of the student

5.2 Teaching Methods::

Participatory master class

- Development of practices in specialized laboratories or computer rooms in small groups
- Development of field practices in small groups
- Individual or collective tutorials. Direct teacher-student interaction
- Approach, realization tutoring and presentation of works
- Conferences and Seminars
- Evaluations and Exams

5.3 Development and Justification:

For the academic theory sessions, they will be exposed, as magisterial or expository lessons, the content of each topic in a clear and concise manner with the help of various audiovisual media and information and communication technologies (ICT) and also with the help of the blackboard when necessary. The exhibition will allow questions and interruptions by the students to clarify any doubts that may arise. All the material used for the explanation of the topic will be provided to students.

Practices will be carried out in small groups and also other complementary teaching activities such as technical visits to equine farms, seminars (with public presentation and debate) or teacher-directed coursework.

6. Detailed Contents

THEORY (33 hours)

UNIT 1. CURRENT SITUATION OF THE EQUINE ZOOTECHNICAL SUBSECTOR. Census and exploitations of equine cattle. Foreign trade. Future perspectives. Uses of the horse basic rules of management of the equine sector. Institutional organization.

UNIT 2. SOCIOECONOMIC IMPORTANCE OF THE EQUESTRIAN SECTOR. Definition of the equestrian complex and activities related to the horse world. Global economic impact of the sector equestrian in Spain. The equestrian-Andalusian complex in figures (capacity to generate wealth and towing capacity).

UNIT 3. EXTERNAL MORPHOLOGY AND FUNCTIONALITY. Introduction. Body regions. Aloidism. Hypometry. Appropriate general characteristics of body regions. Morphology and functionality. Morphological assessment. Phaneroptic. Chronometry.

UNIT 4. IDENTIFICATION AND OFFICIAL RECORDS. Official identification systems. Motion and transport of equines. Register of equine farms. Exploitation record book.

UNIT 5. HORSE BREEDS. Introduction. Classifications of horse breeds. Sorting of Spanish horse breeds: archaic, autochthonous, emerging, integrated, derived, segregated, linked, racial groupings.

UNIT 6. ASS BREEDS. Introduction. Native Spanish breeds in danger of extinction. Main foreign races.

UNIT 7. EQUINE ETHOLOGY. Introduction. Horse behaviour. Types of airs. Stereotyped behavior. Unwanted behaviors.

UNIT 8. REPRODUCTION IN THE EQUINE. Reproductive aspects in the mare and stallion. Reproductive management in the mare and stallion. Treatments indicated for the control of sexual activity of the mare. Assisted reproduction techniques. Causes of infertility.

UNIT 9. EQUINE HYBRIDIZATION. Equine hybrids from the cytogenetic and immunogenic. Fertility problem.

UNIT 10. EQUINE GENETIC IMPROVEMENT. Introduction. Problems in equine genetic improvement. Genetic evaluation of horses. Selection scheme of the purebred Spanish horse. Future expectations in genetic selection. Legislation on selection and reproduction of purebred equine cattle.

UNIT 11. NUTRITION AND FOOD. Digestive anatomy and physiology. Food and your nutritional assessment. Weight and body condition. Nutritional needs and nutrient intakes recommended. General feeding management. Consumption and control of water. Feeding of the mare, stallion and work and sport horse. Nutritional diseases and their prevention.

UNIT 12. ACCOMMODATION OF THE HORSE LIVESTOCK. Introduction. Accommodation systems. General conditions of the accommodations. Environmental and habitat needs of equines. Practical aspects of accommodation

UNIT 13. EQUINE PRODUCTION SYSTEMS. Introduction. Breeding farms and selection of pure breeds. Farms for equestrian practice. Other types of farms. Classification of equine farms according to current regulations.

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UNIT 14. EQUINE MEAT. Introduction. Growth and development. types of production meat horse. Feeding the horse for growth and fattening. Horse meat composition and physical characteristics. Meat production in figures.

UNIT 15. HANDLING OF THE FOAL. Management at birth. Management from birth to weaning. Driving after weaning. Castration.

UNIT 16. MANAGEMENT PRACTICES IN THE EQUINE SPECIES. Introduction. General cleaning and hygiene. Mouth control. Shearing. Hull care. Cleaning of the stables. Driving methods and containment. Horse transport.

UNIT 17. HEALTH IN EQUINES. Introduction. Equine pathology of the digestive system, of the locomotion, reproduction. Infectious and parasitic pathology. Other diseases of interest. Hygienic and prophylactic practices. Hygienic-sanitary conditions and control programs official health.

REDUCED GROUPS PRACTICES (12 h)

PRACTICE 1. Body regions and aplomb. Most frequent defects.

PRACTICE 2. Identification and recognition of the coats of horses.

PRACTICE 3. Estimation of the age of horses based on the state of their dentition.

PRACTICE 4. Identification of horse and donkey breeds by their morphological characteristics

FIELD PRACTICES (11 h)

VISIT 1. International Horse Show (SICAB) or in case of impossibility, visit the Equine Center

VISIT 2. Equine and stud breeding center

ACADEMICALLY DIRECTED ACTIVITIES (4 h)

Students will have to carry out several works related to the theme of the subject, which they will have to be exposed and defended in public. Evaluation activities are also included

7. Bibliography

7.1 Basic Bibliography:

- Bowling, A. T., & Ruvinsky, A. (2000). *The genetics of the horse*. Oxon, UK ;: CABI Pub.
- Brasch, N. (2014). *Horses in australia : An illustrated history*. Sydney, New South Wales: NewSouth.
- Brinsko, S. P. (2011a). *Manual of equine reproduction* (3rd ed.). St. Louis: Mosby.
- Colahan, P. T. (1999a). *Equine medicine and surgery* (5th ed.). St. Louis: Mosby.
- Davies Morel, M. C. G. (2008a). *Equine reproductive physiology, breeding and stud management* (3rd ed.). Wallingford, UK: CABI.
- Edwards, P. (. R., Enenkel, K. A. E., & Graham, E. (2012). *The horse as cultural icon the real and symbolic horse in the early modern world*. Leiden ;: Brill.
- Equine science* (2020). IntechOpen.
- Forrest, S. (2017a). *The age of the horse : An equine journey through human history*. New York: Atlantic Monthly Press.
- Fradinho, M. J., Muller, C., & Saastamoinen, M. (2020a). *Horse feeding and management* MDPI - Multidisciplinary Digital Publishing Institute.
- Fradinho, M. J., Muller, C., & Saastamoinen, M. (2020b). *Horse feeding and management* MDPI - Multidisciplinary Digital Publishing Institute.
- Knottenbelt, D. C., & Knottenbelt, D. C. (2003). *Equine stud farm medicine and surgery*. Edinburgh: Saunders.
- Leblanc, M., & Weiss, G. (2013). *The mind of the horse : An introduction to equine cognition*. Cambridge, Massachusetts ;: Harvard University Press. doi:10.4159/harvard.9780674726376
- Mitchell, P. (2015). *Horse nations : The worldwide impact of the horse on indigenous societies post-1492*. New York, New York: Oxford University Press.
- Morel, M. C. G. D. (1999a). *Equine : Artificial insemination*. Wallingford: CAB International.
- Schöning, B., & Grutzner, H. (2008a). *Horse behaviour : Interpreting body language and communication*. Stuttgart, Germany: 5m Publishing.

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Sponenberg, D. P., & Bellone, R. (2017a). *Equine color genetics*. Hoboken, New Jersey: Wiley Blackwell.
Using science to improve the BLM wild horse and burro program : A way forward (2013). . Washington, District of Columbia: The National Academies Press.

7.2 Additional Bibliography:

Belknap, J. K., & Geor, R. (2017). *Equine laminitis*. Ames, Iowa ;: Wiley-Blackwell.
Clarke, L. (2006). *Applying equine science research into business*. Nottingham: Nottingham University Press.
Colahan, P. T. (1999a). *Equine medicine and surgery* (5th ed.). St. Louis: Mosby.
Colahan, P. T. (1999b). *Manual of equine medicine and surgery*. St. Louis: Mosby.
Edwards, P. (. R., Enenkel, K. A. E., & Graham, E. (2012). *The horse as cultural icon the real and symbolic horse in the early modern world*. Leiden ;: Brill.
Equine veterinary education (online). (1989). *Equine Veterinary Education (Online)*,
Fielding, C. L., Magdesian, K. G., & Aguilera-Tejero, E. (2015). *Equine fluid therapy*. Chichester, England: Wiley Blackwell.
Furr, M., Reed, S., & Aleman, M. (2015). *Equine neurology*. Ames, Iowa: Wiley Blackwell.
Gilger, B. C. (2017). *Equine ophthalmology*. Ames, Iowa: Wiley-Blackwell.
Kidd, J., Lu, K. G., Frazer, M. L., Magee, A., & Debra, A. (2014). *Atlas of equine ultrasonography*. Chichester, England: Wiley Blackwell.
Nixon, A. J. (2020). *Equine fracture repair*. Hoboken, New Jersey: Wiley-Blackwell.
Paillot, R. (2020). *Equine viruses MDPI - Multidisciplinary Digital Publishing Institute*.
Ragle, C. (2012). *Advances in equine laparoscopy*. Ames, IA: Wiley-Blackwell.
Reinemeyer, C. R., & Nielsen, M. K. (2018). *Handbook of equine parasite control*. Hoboken, NJ: John Wiley & Sons, Inc.
Southwood, L. L. (2012). *Practical guide to equine colic*. Ames, IA: Wiley-Blackwell.
Trotter, K. (2012). *Harnessing the power of equine assisted counseling : Adding animal assisted therapy to your practice*. New York: Brunner-Routledge. doi:10.4324/9780203802038

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8. Systems and Assessment Criteria

8.1 System for Assessment:

Theory exam/problems

- Practice Exam
- Defense of Papers and Written Reports
- Individual monitoring of the student

8.2 Assessment Criteria and Marks:

8.2.1 Examinations Convocatory I

CONTINUOUS ASSESSMENT

1. Theory

- Attendance to theory classes is voluntary.
- Periodic checks will be carried out on the acquisition of theoretical knowledge: they can be carried out up to three partial tests. In each of these partial tests it will be necessary to obtain a score equal to or greater than 5.0 to be able to average with the other tests. In case of pass each of these tests, the part of the subject that enters each of them may be considered surpassed.

- The type of exam will generally be in writing and about 10 questions: some free response but short and others of the true or false type. Or the exam may be multiple choice with only 1 correct answer per question, each incorrect answer will subtract 0.5 points and the question that does not is answered will score 0.

- With this section, the competencies G02, G17 and CT1 are evaluated.

- This section is worth 65% of the final grade for the course. The weight of each partial test in this qualification will be proportional to the time dedicated in the theoretical classes for the teaching of the corresponding topics.

2. Small Group Practices

- The assistance to the practical classes will be valued.

- There will be an exam of the content of the practices. Everyone will have to take this exam.

students: those who have attended the practices and those students, who for various reasons reasons, they have not been able to attend these classes. It will be necessary to obtain a qualification equal to or higher than 5.0 to be able to average with the rest of the tests.

- The type of exam will be written, which will include free and short answer questions along with some problems or exercises. Visual media (photos) may be used for exam questions.

- With this section the G04 and CT1 competences are evaluated.

- This section will be worth 20% of the final grade for the course. For those students who have attended the practices this value will be distributed as follows: a 5 % for attendance at practices and 15% for the practice exam.

3. Academically directed activities

- This section will be evaluated, for all students, assessing the quality of the work presented, as well as their exposure and public defense.

- Competences G05, G07 and CT1 are evaluated.

- This section is worth 15% of the final grade for the subject.

4. To pass the subject, the student must have passed all the tests taken (theory and practices). In the event that the student has at least one part below 5.0, he will be fail even if the final grade for the course is above 5.0.

5. At the choice of the Coordinator Professor of the Subject, a final exam of the theoretical content of the subject and a final exam of the content of laboratory practices. This exam would have to be taken by those students who had not passed all or any of the of the partial tests carried out previously and also all those students who, for various causes, would not have appeared to said partial tests

8.2.2 Examinations Convocatory II

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- Those students who have not obtained a qualification will be presented to this Call equal to or greater than 5.0 in all or in some of the partial tests carried out (three of Theory and one of Practices) and they will only have to take an exam of that part that they have with a qualification less than 5.0.
- The Note for academically directed Activities, for Attendance to practices of laboratory will be the one obtained in Call I.
- All the evaluation criteria will be the same as those already specified in the section of the Call I. If the final grade for the subject is equal to or greater than 5.0, the student will be approved.
- As of this call, it will no longer be possible to transfer the Note from any part of the subject to the next call

8.2.3 Examinations Convocatory III

There will be a single final exam of the theoretical and practical contents of the subject. The note obtained in this exam will be equivalent to 100% of the final grade for the subject.

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8.2.4 Extraordinary Convocatory

The evaluation criteria for this Call will be exactly the same as those indicated in the Call III section.

8.3 Single Final Evaluation:

There will be a single final exam of the theoretical and practical contents of the subject. The note obtained in this exam will be equivalent to 100% of the final grade for the subject.