

# EXCHANGE PROGRAM ON VETERINARY MEDICINE, ANIMAL PRODUCTIONS AND ZOOTECNICS

## VETERINARY SCHOOL OF UNILASALLE

**CAMPUS: FRANCE, ROUEN, NORMANDY**

**LANGUAGE OF INSTRUCTION: ENGLISH**

**DATES OF THE PROGRAMME: END OF JANUARY – BEGINNING OF JUNE**

**OPENING: SPRING 2025**

### PROGRAM OVERVIEW:

#### UNIT 1 - CHEESE PRODUCTION IN FRANCE

**(3 ECTS – 45H FACE TO FACE + 15H OF PREPARING PROJECT AND SEMINARS)**

**Objectives:** get to know the history and the particularities of cheese production in France, especially in Normandie et Bretagne, discovering why cheese in France tastes so good. Accompany a veterinary working in inspecting and counselling cheese producers.

**Prerequisites:** none.

#### **Theory:**

- The history of cheese making in France (3h)
- Figures and facts about cheese eating in France (3h)
- The cheese dairy with raw milk (1.5h)
- Health implications of producing cheese with raw milk (1.5h)
- French AOP cheeses (1.5h)

Total: 10.5h

#### **Practical course:**

- Analysis of cheeses (4.5h)
- Discussion of results (1.5h)

Total: 6h

#### **Visits:**

- Fromagerie E. Graindorge (du 01/04 au 30/06 9:30 à 13h et 14h à 17:30) 6h
- Fromageries en Bretagne (2 à choisir) (12h)

Total: 18h

#### **Project:**

- How to produce the French cheese in your environmental conditions
- Guided research (4.5h)
- Guided discussions (3h)
- Presentations of project (3h)

**Writing and preparing presentation of the project** (15h of student independent work)

**Evaluation:** participation in the classes and visits (20%), cheese analysis (20%), presentation of the project (20%), written project (40%).

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**UNIT2 - ANIMAL WELFARE IN MEAT AND DAIRY FARMING IN NORMANDIE**

**(3 ECTS - 49.5H FACE TO FACE + 10.5H OF PREPARING A COMMENTED REPORT ABOUT THE VISITS AND THE SEMINARS)**

**Objectives:** The students will be able to evaluate welfare conditions in dairy and meat cow farms in Normandie based on ethology, animal welfare guidelines and practice in France.

**Prerequisites:** none

**Theory:**

- Animal welfare laws and guidelines – State of the art (3h)
- Figures and facts about bovine welfare in France (3h)
- Ethology of bovines (1.5h)
- Microbiota and probiotics in animal health, impacts on animal welfare (1.5h) –
- Comparing French animal welfare status with other countries (1.5h)

Total: 10.5h

**Practical course:**

- Ethogram of dairy cows (4.5h)
- Ethogram of meat cows (4.5)
- Discussion of results (1.5h)

Total: 10.5 h

**Visits:**

- Dairy farms (9h)
- Meat farms (9h)

Total: 18h

**Seminars**

- How do you compare French welfare conditions with the ones in your home country?
- Guided research (4.5h)
- Guided discussions (3h)
- Presentations of seminars (3h)

**Preparing presentation of the seminar** (10.5h of student independent work)

**Evaluation:** participation in the classes (20%), ethograms (20%), report of visits (40%), presentation of the seminar (20%).

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**UNIT 3 - APPLIED ANATOMY AND BIOMECHANICS OF THE HORSE (AND DOG)**  
**(3 ECTS – 45H FACE TO FACE + 15H OF PREPARING SEMINARS)**

**Objectives:** Evaluation of equine anatomy and biomechanics regarding movement and function. Describe muscles and muscle groups in terms of their functional anatomy. Students will learn how to analyze the biomechanics of movement on a structural level.

**Prerequisites:** none

**Theory**

- The different muscle groups and their actions (2.5h)
- Analysis of movements in different equine disciplines (3h)
- Introduction to horse (and dog?) painting (0.5h)

Total: 6.0h

**Practical course**

- Horse painting: Musculo-skeletal system (6h)
- Horse painting: Splanchnology (6h)

Total: 12h

**Visits**

- Racetrack: guided tour in the absence of competition (6h)
- Racetrack (trotting, galloping, steeple chase) (2 x 4.5h)

Total: 15h

**Project:** How to evaluate the biomechanics of the racing horse

- Guided research (3h)
- Guided discussions (3h)
- Elaboration of Anatomy atlas with the images of the painted horses (3h)
- Presentations of project (3h)

Total: 12h

**Writing and preparing presentation of the project** (15h of student independent work)

**Evaluation:** participation in the classes and visits (20%), horse painting (30%), presentation of the project (20%), written project (30%).

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**UNIT 4 - PROJECT DEVELOPMENT IN PUBLIC POLICY RELATED TO THE ONE HEALTH  
CONCEPT (6 ECTS, 90H FACE TO FACE PLUS 30 HOURS OF STUDENT INDEPENDENT WORK)**

**Objectives:** The students will understand and be able to evaluate One Health policy in France and compare it with their country of origin. Moreover, students will make a field prospection and point out gaps where public policy related to One Health could be improved. In the end they will write and present a project aiming to minimize the gaps and improve One Health.

**Prerequisites:** none

**Theory:**

- One Health – State of the art worldwide (3h)
- Figures and facts about One Health in France, governmental initiatives (3h)
- Private sector initiatives in One Health in France (1.5h)
- Well-succeeded One Health initiatives around the globe (1.5h)
- Costs of One Health implementation and impact on public health local and global (3h)
- The steps of planning and implementing One Health initiatives (3h)
- Public policy and One Health: are they friends? (1.5h)
- The missing link of veterinary medicine and One Health (1.5h)

Total: 15h

**Field prospection:**

1<sup>st</sup> day (8h) – visit to the ministry of health in Paris

2<sup>nd</sup> day (8h) – visit to the city of Rouen

3<sup>rd</sup> day (8h) – visit to the countryside in Normandie

Total: 24 h

**Preparing report on field prospection** (guided work) (6h)

Debates on what has been found in the field (3h)

Guided preparation of projects (6h)

**Presentation of projects on improving One Health policy in France comparing strategies with home country.** (6h)

Preparing field report, debates, and project (30h of student independent work)

**Evaluation:** participation in the classes (20%), field prospection (20%), debates (20%), project and its presentation (40%).

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**UNIT 5 - SNAIL FARMING**

**(2 ECTS, 21H FACE TO FACE AND 10.5H OF RESEARCH AND PREPARING REPORT)**

**Objectives:** Deepening into the French culture of eating snails and understanding the role of veterinarians in this very specific area of veterinary medicine

**Prerequisites:** none

**Theory**

- The history of snail farming and eating in France (3h)
- Figures and facts about snails in the world (1.5h)
- The biology of snails (1.5h)
- Risk factors of snail eating for humans and animals (3h)
- The role of the veterinarian in snail farming and selling in France (3h)

Total: 12h

**Visit**

- Understanding a snail farm through the breeder (6h)

Total: 6h

**Research and Report**

- Guided research about animal welfare concerning snails (3h)
- Deepening of research and preparing written report about the visit in the snail farm considering aspects of animal welfare regarding snail's production and consumption (10.5h of student independent work).
- Presenting reports to the group (3h)

Total: 16.5h

**Evaluation:** participation in the classes (30%), written report (40%), presentation of report (30%).

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**UNIT 6 - DUCK BREEDING AND MANAGEMENT**

**(2 ECTS, 30H FACE TO FACE AND 10H OF SELF-STUDY)**

**Objectives:** The students will discover duck breeding and management in France, the differences between raised and wild ducks for meat flavor, animal welfare regarding foie-gras production, the role of veterinarians in avian pest and the impact on duck production in France and Europe as well students will be able to analyze and express their personal opinion on the subject.

**Prerequisites:** none

**Theory**

- Duck breeding and management in France (3h)
- Figures and facts about duck breeding in the world (1.5h)
- Duck welfare, legislation, and practice (1.5h)
- Foie-gras production, impacts on animal welfare (1.5h)
- Avian pest in Europe: impact on animal health and welfare, as well economy (3h)

Total: 10.5h

**Practical course**

Characteristics of duck meat compared to poultry and cow meat (6h)

Discussion of results (1.5h)

Total: 7.5 h

**Visit**

Duck farming accompanying the work of a veterinarian (9h)

Total: 9h

**Debates** (3h)

**Preparing debate** (10h of student independent work)

**Evaluation:** participation in the classes (20%), practical course (20%), report of visit (30%), debate (30%).

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**UNIT 7 - FISHERIES AND SHELLFISH EXPLOITATION IN NORMANDIE**  
**(3 ECTS, 45H FACE TO FACE AND 15H OF SELF-STUDY)**

**Objectives:** The students will understand fisheries and shellfish exploitation in Normandie, France, and accompany the work of a veterinarian specialized in inspecting products coming from the seas.

**Prerequisites:** none

**Theory**

- Figures and facts about economics around fisheries in Normandie (1.5h)
- Anatomy, Physiology and Reproduction of specific fishes and shellfishes (3h)
- Legislation of fishery and the responsibility of veterinarians in the sector (1.5h)
- Handling and management of fisheries on the Normand coast (1.5h)
- The impact of sea products on human health (3h)

Total: 10.5h

**Practical course**

Analyzing organoleptic qualities of sea products (3h)

Analyzing health quality of sea products (3h)

Discussion of results (1.5h)

Total: 7.5 h

**Visits**

Fishery activities at the Normand coast (9h)

Fish and shellfish market for collecting samples (9h)

Total: 18h

**Guided research:** pitfalls in sea products food chain (4.5h)

**Presentation of seminars** (4.5h)

**Preparing seminars and the report of the visits and practical courses** (15h of student independent work)

**Evaluation:** participation in the classes (20%), practical course (30%), report of visits (30%), seminar (20%).

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### UNIT 8 - THE EUROPEAN UNION AND THE DEVELOPMENT OF THE VETERINARY MEDICINE (3 ECTS – 45H FACE TO FACE + 15H OF PREPARING INTERVIEWS AND SEMINARS)

**Objectives:** The students will understand the role of veterinary medicine for European Union (EU) regulations, food safety, hygiene, and trades. Additionally, students will learn and analyze the impact of Brexit on EU policy related to veterinary medicinal products and regulation on medicated feed. Crisis handling regarding animal diseases will also be approached.

**Prerequisites:** none

#### **Theory**

- History of EU with focus on veterinary medicine related subjects (3h)
- EU legislation and regulations for food safety (3h)
- Animal Health Law, controlling the spread of “A” diseases (1.5h)
- Avian influenza and One Health approach by the World organization for Animal Health (1.5h)
- Crisis handling related to avian influenza (3h)
- Infectiology – Veterinarian bacteriology, resistance to antibiotics (1.5h)
- Medicated feed: impact on human and animal health (1.5)

Total: 15h

#### **Practical course**

Sample collection in a cow farm (3h)

Antibiograms (4.5h)

Testing antibiotics resistance (4.5)

Discussion of results (3h)

Total: 15 h

#### **Visit**

Bundesministerium für Ernährung und Landwirtschaft. Tierseuchen-EU-Handeln, international Fragen, Krisenzentrum in Cologne (4,5h)

Interviews with EU commissioned veterinarians in Bonn and Berlin (4.5h)

Total: 13.5h

**Guided research on Brexit and its implications to EU regarding animal health. (3h)**

**Presentations of seminars - (3h)**

**Preparing presentation of the interviews and seminar (15 h of student independent work)**

**Evaluation:** participation in the classes (20%), practical course (20%), report of interviews (30%), presentation of the seminar (30%).



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**UNIT 9 - MOLECULAR BASIS OF VETERINARY CLINICAL ENDOCRINOLOGY  
(3 ECTS, 45H FACE TO FACE AND 15H OF SELF-STUDY)**

**Objectives:** Veterinary clinical endocrinology has developed enormously in the past two decades. Nowadays, vet endocrinologists depend not only on their global veterinary knowledge but also on biotechnology to establish a differential diagnose. For that, they need to understand the molecular basis of endocrinological diseases to use what is at their disposal in terms of advanced diagnostic tools.

Prerequisites: none

**Theory**

- The endocrine cell: are they all the same? (3h)
- What is important to know happening inside of the endocrine cell to understand a molecular based diagnose? (3h)
- The most common endocrinological disorders: pathogenesis, diagnose and treatment (6h)

Total: 12h

**Practical courses**

- The transcriptome of the endocrine tissue (4.5h)
- Analyzing results of transcriptomics (3h)
- The proteomics of the endocrine tissue (4.5h)
- Analyzing results of proteomics (3h)
- Carrying out molecular based diagnoses for different endocrinological disorders (6h)
- Discussion of results (1.5h)

Total: 22.5 h

**Visits**

Small animal hospital – analysis of endocrinological cases during the past decade (4.5h)

Total: 4.5h

**Guided research:** preparing a case report based on the data of animal hospital and what has been learned in class and lab (3h)

**Presentation of seminars** (3h)

**Preparing seminars and writing the final report of course** (15h of student independent work)

**Evaluation:** participation in the classes (20%), practical course (30%), final report (30%), seminar (20%).

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**UNIT 10 - USE OF REGENERATIVE TREATMENTS IN VETERINARY MEDICINE**

**(1 ECTS – 15H FACE TO FACE + 5H OF PREPARING SEMINARS)**

**Objectives:** Knowledge of different available regenerative treatments in veterinary medicine with a focus on stem cell therapy

**Prerequisites:** none

**Theory**

- Regenerative treatments in Veterinary medicine (1.5h)
- Mesenchymal stem cell therapy (1.5h)
- Stem cell treatments in horses (1.5h)
- Stem cell treatments in dogs and cats (1.5h)

Total: 6h

**Project:** Evaluation of studies reporting the use of stem cells in a specific area

- Guided research (3h)
- Guided discussions (3h)
- Presentations of project (3h)

Total: 9h

**Writing and preparing presentation of the project** (5h of student independent work)

**Evaluation:** participation in the classes (20%), Literature search (20%), presentation of the project (30%), written project (30%).

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**UNIT 11 - THE LAMB OF SOMME BAY (AOC)**

**(1 ECTS – 15H FACE TO FACE + 5H OF PREPARING SEMINARS)**

**Objectives:** Students willing to deep into raising and management of this very specific lamb will have the opportunity to unravel what is behind the so-called Somme Bay salt-meadow lamb, which is reared on meadows regularly flooded by tidal water giving the meat its own and so particular flavour. The tradition comes from the XV<sup>th</sup> century and is plenty of secrets, worthen to be discovered.

**Prerequisites:** none

**Theory**

- Figures and facts of ovine raising in France (1.5h)
- Management of an ovine farm and animal derived products (1.5h)

Total: 3h

**Visit:**

- Visit to a farm in Somme Bay (6h)
- Visit to a slaughterhouse specialized in salt-meadow lamb (1.5h)
- Visit to a restaurant to taste salt-meadow lamb (1.5h)

Total: 9h

**Presentations of seminars** (3h)

**Writing reports of the visits and preparing presentation of the seminar** (5h of student independent work)

**Evaluation:** participation in the classes (20%), report on the visits (40%), presentation of the seminar (40%)