<table>
<tr><td>Course title</td><td colspan="5">Canine Genetics and Development</td></tr>
<tr><td>Course Code</td><td colspan="5">CCAN-105</td></tr>
<tr><td>Course type</td><td colspan="5">Required</td></tr>
<tr><td>Level</td><td colspan="5">Diploma</td></tr>
<tr><td>Year / Semester</td><td colspan="5">1^{st} Year / 1^{st} Semester</td></tr>
<tr><td>Lecturer</td><td colspan="5">TBA</td></tr>
<tr><td>ECTS</td><td>6</td><td>Periods / Week</td><td>3</td><td>Practical / Week</td><td>N/A</td></tr>
<tr><td>Aims of the Course</td><td colspan="5">This module explores the fascinating world of canine genetics and reproduction, providing students with an in-depth understanding of the principles underlying inherited traits, breeding practices, and reproductive health. Students will delve into the genetic makeup of dogs, learn about breeding techniques, and gain insights into the responsible management of canine reproduction.</td></tr>
<tr><td>Learning Outcomes</td><td colspan="5">By the end of this course, students will be able to:
1. Understand canine genetics fundamentals.
2. Explain key concepts such as dominant and recessive alleles, genotype, phenotype, and the role of mutations in genetic disorders.
3. Apply genetic principles to breeding programs.
4. Understand the importance of responsible breeding practices.
5. Evaluate reproductive health and technologies.</td></tr>
<tr><td>Prerequisites</td><td colspan="2">NONE</td><td colspan="2">Core Prerequisites</td><td>NONE</td></tr>
<tr><td>Course Content</td><td colspan="5">1. The basics of canine genetics, including inheritance patterns, genetic variation, and genetic disorders.
2. The concept of DNA and its role in determining inherited traits in dogs.
3. Pedigrees and genetic information to predict traits and understand the potential risks of inherited disorders in breeding programs.
4. The importance of responsible breeding practices, including selecting appropriate mates, genetic testing, and avoiding detrimental genetic traits.
5. The reproductive anatomy and physiology of male and female dogs, including the estrous cycle, mating, and pregnancy.
6. Common reproductive disorders in dogs and their management and treatment options.</td></tr>
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<tr><td></td><td>7. The process of artificial insemination techniques and their applications in dog breeding.
8. The impact of breeding on breed populations, genetic diversity, and breed health.</td></tr>
<tr><td>Course Delivery</td><td>The course is delivered through lectures, discussion, assignments, presentations, case studies and laboratory applications.</td></tr>
<tr><td>Bibliography</td><td>Miklósi, A. (2015). Dog behaviour, evolution and cognition. Oxford: Oxford University Press

https://www.thekennelclub.org.uk/health-and-dog-care/health/getting-started-with-health-testing-and-screening/understanding-canine-genetics/

Ekenstedt, K.J. Crosse, K.R., Risselada, M. (2020). Canine Brachycephaly: Anatomy, Pathology, Genetics and Welfare, Journal of Comparative Pathology, 176, 109-115</td></tr>
<tr><td>Evaluation</td><td>
<table>
<tr><td>50 %</td><td>Final Exam</td></tr>
<tr><td>0 – 40 %</td><td>Mid –Term / Tests / Quizzes</td></tr>
<tr><td>0 – 30 %

0 – 20 %</td><td>Assignments / Projects

Homework</td></tr>
<tr><td>0 – 10 %</td><td>Class Attendance & Participation</td></tr>
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<tr><td colspan="4">Estimated student’s work time distribution in hours:</td></tr>
<tr><td colspan="2">Contact hours</td><td colspan="2">Student’s private time</td></tr>
<tr><td>Lecture</td><td>39</td><td>Private study</td><td>39</td></tr>
<tr><td>Mid-Term Test</td><td>1</td><td>Homework / Assignments / Projects</td><td>42</td></tr>
<tr><td>Final Exam</td><td>2</td><td>Test preparation</td><td>9</td></tr>
<tr><td></td><td></td><td>Final Exam Preparation</td><td>18</td></tr>
<tr><td>Total:</td><td>42</td><td>Total:</td><td>108</td></tr>
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<tr><td>Language of instruction</td><td>ENGLISH</td></tr>
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