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| Course Title | Advanced Seminar in Veterinary Clinics：Large Animals and Clinical Pathology |
| Type | Exercise, Elective | Number of credits | 2 | Hours | 90 |
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| Course Title | Large Animals |
| Course Instructor | Seiji KATAGIRI, Masashi NAGANO, Yojiro YANAGAWA,  |
| Course Overview:Through the practices, students understand and become able to treat dairy cattle from estrus to parturition, and also understand the points of in vitro production of embryos. |
| Course Goals:1. To be able to monitor the estrous cycle and detect the estrus
2. To be able to perform the artificial insemination and also can explain the reproductive physiology lying on the basis
3. To be able to explain fetal development and processes of parturition, and to perform the appropriate assist for parturition
4. To be able to produce bovine embryo in vitro
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| For managing dairy cattle, several practices in the experimental farm of Hokkaido University will be performed.1. Examination of genital organ by rectal palpation and ultrasonography2. Monitoring estrous cycle and estrus detection 3. Artificial insemination4. Pregnancy diagnosis5. Management of peripartum periodFor producing bovine embryos in vitro, laboratory works will be also performed1. In vitro maturation of oocytes2. In vitro fertilization of oocytes3. In vitro developmental culture of presumptive zygotes4. Semen handling for in vitro insemination |
| Remarks:　Maximum of 5 students |
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| Course Title | Clinical Pathology |
| Course Instructor | Mutsumi INABA, Jumpei YAMAZAKI |
| Course Overview:Students learn and experience several advanced procedures for the diagnosis of metabolic and neoplastic diseases in animals. |
| Course Goals:1. To learn several advanced tests in diagnostic laboratories required for the diagnoses of some metabolic and neoplastic diseases.
2. To be able to plan the differential diagnosis using the clinical laboratory tests learned for some typical diseases.
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| Course Schedule: 1. Advanced clinical diagnostic tests for metabolic and neoplastic diseases 2. Cytology for neoplastic diseases (2 periods)3. Laboratory tests for lipid metabolism (2 periods)4. Laboratory tests for hemostasis (2 periods)5. Laboratory tests for inherited diseases |
| Remarks:　Maximum of 5 students for an academic year |