The Pirbright Institute Course Catalogue

Pirbright Training

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About The Pirbright Institute

Welcome to The Pirbright Institute, an international centre of excellence for virological research. We are a registered charity dedicated to advancing scientific knowledge, developing novel solutions to vaccine development, diagnostic solutions, and intervention strategies, and mitigating the threats posed by animal diseases and those transmissible from animals to humans.

Our facilities are recognised as a national capability, with specialist services available in low containment and high containment settings suitable for handling pathogens up to and including Advisory Committee on Dangerous Pathogens (ACDP) hazard group (HG) 3 and Specified Animal Pathogens Order (SAPO) group 4. The Institute is home to several World Organisation for Animal Health (WOAH) reference laboratories including the World Reference Laboratory (WRL) for foot-and-mouth disease virus and laboratories for African swine fever virus and Lumpy skin disease. Our efforts align with global disease control initiatives, collaborating with partners such as the Food and Agriculture Organisation (FAO) and the European Commission for the Control of Foot-and-Mouth Disease (EuFMD). We actively partner with institutions, universities, and industry stakeholders globally.

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Our campus houses conferencing facilities, low level (CL2), and high-level containment laboratories and animal facilities (up to CL4), insectaries and vaccine development laboratories. Our highly secure facilities have been constructed using cutting-edge engineering and adhere to the strictest international standards. We have dedicated, in-house engineering and health, safety, and biosafety (HSBS) teams ensuring we can stay both current and efficient. Our expertise in these areas is recognised by the Health and Safety executive including Pirbright in the expert panel of the Biosafety leadership group.

We are committed to protecting public health, agriculture, and the environment from the risks associated with infectious pathogens.

Introduction

At The Pirbright Institute we are committed to delivering exceptional training courses in the fields of virology, immunology, infectious diseases, engineering, and biosafety.

Our courses cater to researchers, veterinarians, clinicians, and industry professionals in engineering and biosafety, providing them with invaluable knowledge and skills in our specialized domains. These courses include lectures, practical laboratory sessions, case studies, and interactive on-line learning to provide a comprehensive experience that bridges the gap between theory and practice.

Our dedicated subject matter experts are leaders in their respective fields. They bring their wealth of experience and expertise to our training courses, working alongside the Training Team to create dynamic and interactive learning environments that promote knowledge sharing, networking, and professional growth.

Moreover, for our in-person courses, the unique advantage of being situated within a world-class research institute allows our participants access to our modern laboratories and resources, engineering areas, and state-of-the-art equipment. This ensures that our training courses are not only stimulating but also offer hands-on opportunities to apply knowledge, develop skills, and gain practical insights into the latest research and engineering techniques.

Members of our training team and subject matter experts have worked with people all over the world, understanding the different needs that may be encountered. Our teams are best placed to showcase new advancements whilst also being realistic, presenting alternatives where appropriate. Together, we can work with delegates to achieve the best outcome for their training.

We invite you to explore our training course catalogue. The catalogue provides information on each of our regularly run courses but is not an exhaustive list of our capabilities. If you do not find a course that suits your needs, please contact us and we will try to work with you to develop training material that aligns with your requirements.

We look forward to welcoming you to The Pirbright Institute.

General information

Security, Safety and Biosafety

This is a secure site, visitors must be registered in advance and produce identification upon arrival each day. Accepted forms of identification include a passport (any nationality), a UK Drivers licence or a construction skills certificate (CSCS) card. All candidates must be escorted by their host at all times – please be patient.
Some visitors may require a visa. A letter of acceptance onto a training course will be provided if required.

Accommodation

The Pirbright Institute has access to houses within walking distance of site at reasonable cost. Accommodation is offered as a private bedroom with shared bathroom, living area and kitchen. Availability is not guaranteed and must be booked in advance. The facilities include basic equipment and utensils for cooking, or there are several pubs close by that offer evening meals. Alternatively, we can provide details of nearby hotels, however, transfers to and from site would need to be arranged by the delegate.

Photography

Photography is strictly controlled. If you would like to take a photograph, please speak to your host who will show you designated permissible locations.

English Language Requirement

All visitors must have a good level of understanding and communication with the English language. This is to ensure compliance with safety and biosafety procedures and to benefit from the training courses. The requirement is an IELTS score of 6.5 overall, with minimum scores of 6.0 in listening, reading, and speaking, and 5.5 in writing. If English is not your first language and you lack formal qualifications, we may request additional evidence, possibly through a video conference to assess your language skills.

Costs

eLearning: 30-day access per account. In person: per person, includes refreshments/lunch. Accommodation, transportation, and other meals are not included.

We are a centre of excellence providing the UK and international community with the infrastructure, expertise, and institutional knowledge to control viral diseases of livestock and zoonoses. We therefore offer bursary support, the extent of which will depend on factors such as:

- Economic grouping (national income band) of country of residence of candidate.
- Affiliation with Government, or private sector.
- Anticipated impact.

Please contact us to discuss your eligibility.

Science courses

African swine fever (ASF): eLearning

Summary

- **7-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for laboratory staff responsible for implementing diagnostic techniques to detect African swine fever virus. The course can also be useful to anyone with a general interest in learning about the clinical disease, pathogenicity, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course designed in collaboration with subject matter experts in the ASFV WOAH reference laboratory at Pirbright, is intended to broaden participants understanding of ASF, and the virus which causes it. The course specifically focuses on information that would be useful for vets or laboratory staff undertaking laboratory diagnostic testing of ASFV.

Learning Outcomes

Divided into 8 individual modules, you will be able to:

- Discuss impact and importance of ASFV.
- Describe African swine fever viral structure, virus stability, and transmission.
- Discuss the spread of ASFV, its pathogenicity including the development of immunity.
- Recognise the clinical signs of ASFV for the acute, subacute and chronic forms of the disease, and compare to other diseases for differential diagnosis.
- Explain laboratory diagnostics including molecular, virological, and serological techniques.
- Outline methods for sample collection, dispatch, and receipt.

Avian influenza virus (AIV): eLearning

Summary

- **2-3-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for poultry health and industry professionals including vets and laboratory staff responsible for implementing diagnostic techniques to detect avian influenza virus (AIV). The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course designed in collaboration with subject matter experts conducting research on avian influenza at Pirbright, is intended to broaden participants understanding of avian influenza, and the virus which causes it. The course specifically focuses on information that would be useful for laboratory staff undertaking laboratory diagnostic testing of AIV.

Learning Outcomes

Divided into 6 individual modules, you will be able to:

- Discuss the history, impact, structure, replication cycle and stability of AIV.
- Describe the pathogenesis and spread of AIV including the development of immunity.
- Recognise the clinical signs of AIV and compare to other diseases for differential diagnoses.
- Outline methods for sample dispatch and receipt.
- Explain laboratory diagnostics including molecular, virological, and serological techniques.
- Discuss disease control and risk mitigation strategies.

Bluetongue: eLearning

Summary

- **4-5-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for laboratory staff responsible for implementing diagnostic techniques to detect bluetongue virus (BTV). The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course designed in collaboration with subject matter experts in the BTV WOAH reference laboratory at Pirbright, is intended to broaden participants understanding of bluetongue, and the virus which causes it. The course specifically focuses on information that would be useful for vets or laboratory staff undertaking laboratory diagnostic testing of BTV.

Learning Outcomes

Divided into 9 individual modules, you will be able to:

- Discuss the history and impact of BTV.
- Describe the pathogenesis and spread of BTV including incubation and persistence in carrier animals.
- Recognise the clinical signs of BTV and compare to similar diseases for differential diagnoses.
- Explain the importance of laboratory diagnosis for BTV including which samples and tests are important to confirm disease and for surveillance.
- Describe laboratory diagnostics including molecular, virological, and serological techniques, as well as next generation sequencing.
- Outline methods for sample dispatch and receipt.

Diagnosis of foot-and-mouth disease (FMD): Instructor-led

Summary

- **2-week course**
- **Up to 4 participants**
- **The Plowright Building**

Who Should Attend

This course has been specifically designed for laboratory staff who are responsible for implementing FMDV diagnostic techniques in the laboratory. This course is not suitable for research or group leaders who are not based in the laboratory.

Requirements and Qualifications

Participants must work within a laboratory and have a basic understanding of virological and related techniques. The course is presented in English.

Course Description

The course is designed and taught by subject matter experts within the World Reference Laboratory for FMD. The course will include a combination of hands-on practical sessions, demonstrations, lectures, and eLearning. Relevant course material will be provided at the close of the course.

Learning Outcomes

In addition to the stated “Foot-and-mouth-disease (FMD) eLearning” outcomes listed in the next section; participants will be able to:

- Isolating FMDV from field samples using tissue culture techniques.
- Detecting FMDV antigen using ELISA.
- Performing real-time RT-PCR for FMDV genome detection and VP1 Sanger sequencing for FMDV genome characterisation.
- FMDV antibody detection methods.
- Vaccine matching for different FMDV strains.

Foot-and-mouth disease (FMD): eLearning

Summary

- **8-hour course**
- **Internet required**
- **Self-directed or facilitated**

Target Audience

The course is specifically designed for veterinarians or laboratory staff responsible for implementing diagnostic techniques to detect FMDV. The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is available in English (UK) and French.

Course Description

This eLearning course designed by subject matter experts within the World Reference Laboratory for FMD at Pirbright, is intended to broaden participants understanding of FMDV. The course specifically focuses on information that would be useful for veterinarians or laboratory staff undertaking laboratory diagnostic testing of FMDV. The course can be completed as self-directed eLearning or as a facilitated course (in collaboration with EuFMD) This facilitated course includes discussions, presentations, and videos.

Learning Outcomes

Divided into 13 individual modules, you will be able to:

- Discuss the history, impact, and structure of FMDV.
- Describe the pathogenesis and spread, including incubation, shedding and persistence of the virus.
- Recognise the clinical signs of FMDV, including describing the ageing of lesions. Compare to similar diseases for differential diagnoses.
- Outline methods for sample dispatch and receipt.
- Describe laboratory diagnostics including molecular, virological, and serological techniques, as well as testing methods in the field. Describe further characterisation of FMDV using sequencing and vaccine matching.
- Discuss biosafety and biosecurity measures required for an FMDV handling laboratory.

Foot-and-mouth disease (FMD) post-vaccination monitoring through VNT and ELISA: Instructor-led

Summary

- **1-week course**
- **Up to 4 participants**
- **The Plowright Building**

Who Should Attend

The course is specifically designed for laboratory staff or managers using or wanting to use serological assays to assess the immune response of livestock after vaccination with foot-and-mouth disease (FMD) vaccine.

Requirements and Qualifications

Participants must work within a laboratory and have a basic understanding of serological and related techniques. The course is presented in English.

Course Description

Using a set of post-vaccination sera, trainees will carry out virus neutralisation test (VNT) and a solid-phase competition ELISA (SPCE). By the end of the week, results for both the VNT and the ELISA will be compared with the goal of determining the serostatus of the animals from which the samples were collected. The course will provide guidance on how to establish these tests in trainee's laboratory and will also outline the quality assurance steps needed to decrease variation and monitor the performance of these assays (with the support from the Pirbright Quality Assurance team). The use of these tests to support post vaccination monitoring studies and PD50/PPG vaccine potency studies will be discussed with the Pirbright team.

Learning Outcomes

You will be able to:

- Set-up and demonstrate the VNT and SPCE - including when these assays should be used and what their advantages and limitations are.
- Implement the quality assurance needed to decrease variation and monitor the performance.

Infectious bronchitis virus (IBV): eLearning

Summary

- **1-2-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for poultry health and industry professionals including vets and laboratory staff responsible for implementing diagnostic techniques to detect IBV. The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course designed in collaboration with subject matter experts conducting research on infectious bronchitis at Pirbright, is intended to broaden participants understanding of infectious bronchitis, and the virus which causes it. The course specifically focuses on information that would be useful for laboratory staff undertaking laboratory diagnostic testing of IBV.

Learning Outcomes

Divided into 5 individual modules, you will be able to:

- Discuss the history, impact, structure, and stability of IBV.
- Describe the pathogenesis and spread, including sources of infection, replication, and immunity.
- Recognise the clinical signs of IBV and compare to similar diseases for differential diagnoses.
- Describe laboratory diagnostics including molecular, virological, and serological techniques.
- Discuss disease control and risk mitigation strategies.

Infectious bursal disease (IBD): eLearning

Summary

- **1-2-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for poultry health and industry professionals including vets and laboratory staff responsible for implementing diagnostic techniques to detect IBD virus (IBDV). The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course designed in collaboration with subject matter experts conducting research on infectious bursal disease at Pirbright, is intended to broaden participants understanding of infectious bursal disease, and the virus which causes it. The course specifically focuses on information that would be useful for laboratory staff undertaking laboratory diagnostic testing of IBDV.

Learning Outcomes

Divided into 5 individual modules, you will be able to:

- Discuss the history, impact, structure, and stability of IBDV.
- Describe the pathogenesis and spread, of IBDV including sources of infection, replication, and immunity.
- Recognise the clinical signs of IBDV and compare to other diseases for differential diagnoses.
- Explain laboratory diagnostics including molecular, virological, and serological techniques and as well as the pathological and histopathological changes.
- Discuss disease control and risk mitigation strategies.

Laboratory diagnosis of African swine fever (ASF): Instructor-led

Summary

- **2-week course**
- **Up to 4 participants**
- **The Plowright Building**

Who Should Attend

This course has been specifically designed for laboratory staff who are responsible for implementing ASF diagnostic techniques in the laboratory. This course is not suitable for non-laboratory-based research or group leaders.

Requirements and Qualifications

Participants must work within a laboratory and have a basic understanding of virological and related techniques. The course is presented in English.

Course Description

The course is designed and taught by subject matter experts within the WOAH Reference Laboratory for ASFV. The course will include a combination of hands-on practical's, demonstrations, seminars, and eLearning. Relevant course material will be provided at the close of the course.

Learning Outcomes

In addition to learning outcomes described for "African swine fever (ASF) eLearning", participants will be able to:

- Isolate ASF virus and use techniques such as the haemadsorption assay (HAD).
- Apply diagnostic methods for ASFV antigen and genome identification including antigen ELISA and real-time PCR.
- Perform serological ASFV antibody detection methods including antibody ELISA, immunoblot, and immunoperoxidase test.
- Characterise ASFV using genotyping (p72 and/or p54), sequencing and phylogenetic analysis.

Laboratory diagnosis of Lumpy skin disease (LSD): Instructor-led

Summary

- **1-week course**
- **Up to 4 participants**
- **The Plowright Building**

Who Should Attend

This course has been specifically designed for laboratory staff who are responsible for implementing LSD diagnostic techniques in the laboratory. This course is not suitable for non-laboratory-based research or group leaders.

Requirements and Qualifications

Participants must work within a laboratory and have a basic understanding of virological and related techniques. The course is presented in English.

Course Description

The course is designed and taught by subject matter experts within the WOAH Reference Laboratory for LSDV. The course will include a combination of hands-on practical's, demonstrations, lectures, and eLearning. Relevant course material will be provided at the close of the course.

Learning Outcomes

In addition to the stated "Lumpy skin disease (LSD) eLearning" outcomes, participants will be able to:

- Describe what samples are required for LSDV diagnosis.
- Isolate LSD virus using cell culture.
- Apply diagnostic methods for LSDV antigen and genome identification.
- Perform serological LSDV antibody detection methods.
- Discuss the principles and workflow for LSDV gene sequencing.
- Explain the diagnostic workflow for LSDV and other capripox viruses (sheep pox and goat pox).

Laboratory diagnosis of Marek's disease (MD): Instructor-led

Summary

- **2.5-day course**
- **Up to 4 participants**
- **The Jenner Building**

Who Should Attend

This course has been specifically designed for laboratory staff who are responsible for implementing MDV diagnostic techniques in the laboratory. This course is not suitable for non-laboratory-based research or group leaders.

Requirements and Qualifications

Participants must work within a laboratory and have a basic understanding of virological and related techniques. The course is presented in English.

Course Description

The course is designed and taught by subject matter experts in the WOAH Reference laboratory for MDV. The course will include a combination of hands-on practical's, demonstrations, lectures, and eLearning. Relevant course material will be provided at the close of the course.

Learning Outcomes

In addition to the stated "Marek's disease (MD) eLearning" outcomes, participants will be able to:

- Process field samples for DNA preparation.
- Perform real-time PCR to detect MDV and Marek's disease vaccine viruses.
- Interpret the results of real-time PCR for MDV and Marek's disease vaccine viruses.
- Explain the diagnostic workflow for MDV diagnosis.
- Troubleshoot real-time PCR workflows.
- Isolate Marek's disease virus using cell culture.
- Reproduce the methods at their home laboratories and train other staff in the techniques.

Laboratory diagnosis of peste des petits ruminants (PPR): Instructor-led

Summary

- **1-week course**
- **Up to 4 participants**
- **The Plowright Building**

Who Should Attend

This course has been specifically designed for laboratory staff who are responsible for implementing PPR diagnostic techniques in the laboratory. This course is not suitable for non-laboratory-based research or group leaders.

Requirements and Qualifications

Participants must work within a laboratory and have a basic understanding of virological and related techniques. The course is presented in English.

Course Description

The course is designed and taught by subject matter experts within the WOAH Reference Laboratory for PPR. The course will include a combination of hands-on practical's, demonstrations, lectures, and eLearning. Relevant course material will be provided at the close of the course.

Learning Outcomes

In addition to the stated "Peste des petits ruminants (PPR) eLearning" outcomes, participants will be able to:

- Isolate PPR virus using cell culture.
- Apply diagnostic methods for PPRV genome detection including real-time RT-PCR and for N-gene RT-PCR.
- Perform serological PPR antibody detection methods including antibody ELISA, and serum neutralisation test.
- Characterise PPRV using F/N gene nucleotide sequencing and lineage determination.

Lumpy skin disease (LSD): eLearning

Summary

- **2-3-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for laboratory staff responsible for implementing diagnostic techniques to detect LSD virus (LSDV). The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course designed in collaboration with subject matter experts in the LSDV WOAH reference laboratory at Pirbright, is intended to broaden participants understanding of LSD, and the virus which causes it. The course specifically focuses on information that would be useful for vets or laboratory staff undertaking laboratory diagnostic testing of LSDV.

Learning Outcomes

Divided into 7 individual modules, you will be able to:

- Discuss the history, impact, and structure, of LSDV.
- Describe the pathogenesis and spread of LSDV including incubation times and vaccination.
- Recognise the clinical signs of LSDV and compare to similar diseases for differential diagnoses.
- Explain the importance of laboratory diagnosis for LSDV including samples type and test selection.
- Outline methods for sample dispatch and receipt.
- Describe laboratory diagnostics including molecular, virological, and serological techniques, as well as sanger sequencing.
- Discuss the impact of recombinants on testing regimes.

Marek's disease (MD): eLearning

Summary

- **2-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for poultry health and industry professionals including vets and laboratory staff responsible for implementing diagnostic techniques to detect Marek's disease virus (MDV). The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course, designed in collaboration with subject matter experts in the MDV WOAH reference laboratory at Pirbright, is intended to broaden participants' understanding of MD, and the virus which causes it. The course specifically focuses on information that would be useful for vets or laboratory staff undertaking laboratory diagnostic testing for MDV.

Learning Outcomes

Divided into 6 individual modules, you will be able to:

- Discuss the history, impact, structure, and stability of MDV.
- Describe the pathogenesis and spread of MDV including sources of infection, replication, and immunity.
- Recognise the clinical signs of the different clinical forms of MD and compare with other diseases for differential diagnoses.
- Explain laboratory diagnostics including molecular, virological, and serological techniques as well as the pathological and histopathological changes.
- Discuss control and risk mitigation strategies including biosecurity, genetic resistance, and vaccination.
- Outline methods for sample dispatch and receipt.

Newcastle disease (ND): eLearning

Summary

- **1-2-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for poultry health and industry professionals including vets and laboratory staff responsible for implementing diagnostic techniques to detect Newcastle disease virus (NDV). The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course designed in collaboration with subject matter experts conducting research on Newcastle disease at Pirbright, is intended to broaden participants understanding of Newcastle disease, and the virus which causes it. The course specifically focuses on information that would be useful for laboratory staff undertaking laboratory diagnostic testing of NDV.

Learning Outcomes

Divided into 4 individual modules, you will be able to:

- Discuss the history, impact, structure, and describe the different pathotypes of NDV.
- Describe the transition and spread of NDV including incubation periods.
- Recognise the clinical signs of the different clinical forms of NDV and compare to other diseases for differential diagnoses.
- Identify appropriate samples for laboratory diagnosis and describe diagnostic tests selection.
- Discuss disease control and risk mitigation strategies including vaccination.

Peste des petits ruminants (PPR): eLearning

Summary

- **2-3-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is specifically designed for vets or laboratory staff responsible for implementing diagnostic techniques to detect PPR virus (PPRV). The course can also be useful to anyone with a general interest in learning about the pathogenicity, clinical disease, epidemiology, and control of the virus.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This eLearning course designed in collaboration with subject matter experts in the PPRV WOAH reference laboratory at Pirbright, is intended to broaden participants understanding of PPR, and the virus which causes it. The course specifically focuses on information that would be useful for vets or laboratory staff undertaking laboratory diagnostic testing of PPRV.

Learning Outcomes

Divided into 5 individual modules, you will be able to:

- Discuss the history, impact, host range and global eradication campaign for PPRV.
- Recognise the clinical signs of PPRV and compare to similar diseases for differential diagnoses.
- Describe the viral structure, transcription, and genetic lineages for PPRV.
- Explain the importance of laboratory diagnosis for PPRV including samples type and test selection.as well as describing penside tests for PPRV.
- Describe laboratory diagnostics including molecular, virological, and serological techniques.
- Discuss disease control and risk mitigation strategies including vaccination.

Poultry health course: Instructor-led

Summary

- **1-week course**
- **10-25 participants**
- **Centre for Collaborative Learning, The Pirbright Institute**

Who Should Attend

This course has been specifically designed for veterinary surgeons, technical staff, and poultry managers as part of continued professional development (CPD).

Requirements and Qualifications

Participants must work within the poultry industry and have a basic understanding of poultry health. The course is presented in English.

Course Description

The course is designed and taught by subject matter experts within The Pirbright Institute, University of Surrey, and guest lecturers at the forefront of their respective fields. The course will cover key virological, bacteriological, and parasitological poultry diseases. Industry experts will lead on discussions regarding nutrition and enrichment, hatchery practice and field investigations. Practicals will take place at the University of Surrey. The course will include a combination of hands-on practicals, demonstrations, and lectures. Relevant course material will be provided at the close of the course.

Learning Outcomes

Participants will be able to:

- Recognise the clinical signs of key poultry diseases.
- Describe the immunology for key poultry diseases.
- Perform postmortem examination and key diagnostic techniques including real-time PCR to detect viral genome, bacterial culturing, and microscopy.
- Identify necessary biosecurity measures for a poultry farm and perform a field investigation.
- Describe best practices for nutrition, and enrichment.
- Discuss current industry issues including antimicrobial resistance.

Transboundary diseases: Instructor-led

Summary

- **1-week course**
- **Up to 4 participants**
- **The Plowright Building**

Who Should Attend

This course has been specifically designed for laboratory staff who are responsible for implementing diagnostic techniques in the laboratory. This course is not suitable for non-laboratory-based research or group leaders.

Requirements and Qualifications

Participants must work within a laboratory and have a basic understanding of virological and related techniques. The course is presented in English.

Course Description

The course is designed and taught by subject matter experts within the Reference Laboratories embedded within the vesicular and non—vesicular disease reference laboratories. The course will cover diseases studied within the repertoire of these laboratories including AHS, ASF, BTV, Capripox, Morbillivirus and FMD. Practical's will use a single virus as an example of each technique. The course will include a combination of hands-on practical's, demonstrations, and lectures. Relevant course material will be provided at the close of the course.

Learning Outcomes

Participants will be able to:

- Explain the quality management aspects that are important in an ISO/IEC 17025 accredited laboratory.
- Prepare suitable contingency plans for their laboratory's.
- Perform antibody ELISA for the detection of antibodies using a commercial kit.
- Isolate virus using cell culture and describe which cell lines are appropriate for each virus.
- Perform real-time PCR and real-time RT-PCR, describe the differences in the methods and select the appropriate method for each virus.
- Prepare samples for sequencing.

Veterinary vaccine development process: eLearning

Summary

- **6-7-hour course**
- **Internet required**
- **Self-directed**

Target Audience

The course is primarily aimed at academic researchers having a basic knowledge of virology and vaccinology with more interactive learning materials provided for the early phases of vaccine development during which academia is more involved. However, as it provides a complete overview it will be helpful for anyone wishing to gain an overview of veterinary vaccine development.

Requirements and Qualifications

Access to a computer with a reliable internet connection is essential. The course is prepared in English (UK).

Course Description

This course provides a complete overview of the different stages of veterinary vaccine development, showing the process of developing a vaccine, how it flows from early-stage research through to commercial development and product registration. Greater awareness of the entire process spanning from early-stage research performed in academia to product development and registration likely performed by a commercial partner is aimed to bridge the knowledge gap between these two sectors.

Learning Outcomes

Divided into 6 individual modules, you will be able to:

- Understand what a Target Product Profile is and how it facilitates vaccine development.
- Know key questions that should be addressed during the Discovery and Feasibility phase including important technology transfer considerations.
- Discuss the challenges faced when transferring technologies from academia to industry.
- Explain the key elements of early- and late-stage veterinary vaccine development.
- Describe the complexity of product licensing and registration.

Biosafety courses

Biological Safety Cabinets for Biosafety Professionals and Laboratory Managers: Instructor-led

Summary

- **2-day course**
- **Up to 6 participants**
- **The Pirbright Institute**

Who Should Attend

This course is designed for health, safety and biosafety professionals and facility managers who (1) seek to gain comprehensive knowledge of Biological Safety Cabinet (BSC) use and operation, or (2) are involved in designing, commissioning or upgrading biomedical facilities.

Requirements and Qualifications

Basic experience of working within biological laboratories is recommended. The course is presented in English.

Course Description

This comprehensive course provides information on the management, operation and maintenance of class I, II and III BSCs in accordance with the UK and European legal framework (e.g. EN 12469:2000). This course includes a combination of instructor-led lectures and hands-on demonstrations and exercises in a training laboratory.

Learning Outcomes

On completion of this course, participants will be able to:

- Explain how Class I, II and III BSCs work.
- Compare hard-ducted, thimbled, by-pass and recirculatory BSCs.
- Describe the process of installation and commissioning.
- Describe requirements for BSC testing and validation.
- Describe good BSC operator posture.
- Explain how to monitor BSC operation.
- Demonstrate good operator practices.
- Explain how to clean, decontaminate and fumigate BSCs.
- Describe procedures for various BSC emergencies.

Biological Safety Cabinets for Biosafety Professionals and Laboratory Managers: eLearning

Summary

- **5-6-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course is designed primarily for health, safety and biosafety professionals and facility managers who (1) seek to gain comprehensive knowledge of Biological Safety Cabinet (BSC) use and operation, or (2) are involved in designing, commissioning or upgrading biomedical facilities.

Requirements and Qualifications

Basic experience of working within biological laboratories is recommended. The course is presented in English.

Course Description

This comprehensive course provides information on the management, operation and maintenance of class I, II and III BSCs in accordance with the UK and European legal framework (e.g. EN 12469:2000). Topics include principles of BSC design and operation (including air extraction systems), installation and commissioning, testing and validation requirements, ergonomics, monitoring of operation, good working practices, fumigation and emergency procedures.

Learning Outcomes

On completion of this course, participants will be able to:

- Explain how Class I, II and III BSCs work.
- Compare hard-ducted, thimbled, by-pass and recirculatory BSCs.
- Describe the process of installation and commissioning.
- Describe requirements for BSC testing and validation.
- Describe good BSC operator posture.
- Explain how to monitor BSC operation.
- Demonstrate good operator practices.
- Explain how to clean, decontaminate and fumigate BSCs.
- Describe procedures for various BSC emergencies.

Biological Safety Cabinets (All Classes) for Users: Instructor-led

Summary

- **1-day course**
- **Up to 5 participants**
- **The Pirbright Institute**

Who Should Attend

This course is designed primarily for laboratory staff who uses Class I, II and III Biological Safety Cabinets (BSCs) in their day-to-day work in a biomedical setting.

Requirements and Qualifications

Basic experience of working within biological laboratories is recommended. The course is presented in English.

Course Description

BSCs are one of the most biosafety-critical items of equipment in any biological laboratory. This course provides information on the correct and safe operation of class I, II and III BSCs in accordance with the UK and European legal framework (e.g. EN 12469:2000). Topics include principles of BSC operation, ergonomics, monitoring of operation, good working practices and emergency procedures. This course includes a combination of instructor-led lectures and hands-on demonstrations and exercises in a training laboratory.

Learning Outcomes

On completion of this course, participants will be able to:

- Explain how Class I, II and III BSCs work.
- Describe good BSC operator posture.
- Explain how to monitor day-to-day BSC operation.
- Demonstrate good operator practices.
- Explain how to clean and decontaminate BSCs.
- Describe a procedure to be followed in case of various BSC emergencies (including a spill).

Biological Safety Cabinets (All Classes) for Users: eLearning

Summary

- **3-4-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course is designed primarily for laboratory staff who uses Class I, II and III Biological Safety Cabinets (BSCs) in their day-to-day work in a biomedical setting.

Requirements and Qualifications

Basic experience of working within biological laboratories is recommended. The course is presented in English.

Course Description

BSCs are one of the most biosafety-critical items of equipment in any biological laboratory. This course provides information on the correct and safe operation of class I, II and III BSCs in accordance with the UK and European legal framework (e.g. EN 12469:2000). Topics include principles of BSC operation, ergonomics, monitoring of operation, good working practices and emergency procedures.

Learning Outcomes

On completion of this course, participants will be able to:

- Explain how Class I, II and III BSCs work.
- Describe good BSC operator posture.
- Explain how to monitor day-to-day BSC operation.
- Demonstrate good operator practices.
- Explain how to clean and decontaminate BSCs.
- Describe a procedure to be followed in case of various BSC emergencies (including a spill).

Biological Safety Cabinets (Class I and Class II) for Users: eLearning

Summary

- **2-3-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course is designed primarily for laboratory staff who uses Class I and Class II Biological Safety Cabinets (BSCs) in their day-to-day work in a biomedical setting.

Requirements and Qualifications

Basic experience of working within biological laboratories is recommended. The course is presented in English.

Course Description

BSCs are one of the most biosafety-critical items of equipment in any biological laboratory. This course provides information on the correct and safe operation of class I and class II BSCs in accordance with the UK and European legal framework (e.g. EN 12469:2000). Topics include principles of BSC operation, ergonomics, monitoring of operation, good working practices and emergency procedures.

Learning Outcomes

On completion of this course, participants will be able to:

- Explain how Class I and Class II BSCs work.
- Describe good BSC operator posture.
- Explain how to monitor day-to-day BSC operation.
- Demonstrate good operator practices.
- Explain how to clean and decontaminate BSCs.
- Describe a procedure to be followed in case of various BSC emergencies (including a spill).

Biorisk Advisor Training: Blended learning

Summary

- **9-hour eLearning / 4-day in-person**
- **Up to 9 participants**
- **Internet required / Self-directed**
- **Approved by The Royal Society of Biology**
- **135 CPD points**

Target Audience

This course is aimed at anyone acting as a practitioner providing advice, support or oversight of the management, control or containment of biological risks.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. This course is taught in English.

Course Description

This course explores thirteen topics of biorisk management. Each topic will be delivered as either eLearning or an instructor-led in-person training. The in-person part of the course will take place at The Pirbright Institute over a period of four days.

eLearning Modules

Management, Transport, Engagement and impact, Waste management, Competence and training, Monitoring, Ethics and sustainability.

In-person Modules

Risk assessment, Biological hazards, Personal protective equipment, Containment and control, Genetic modification, Incident management.

Biorisk Advisor Training: Facilitated elearning

Summary

- **Approx 41-hours course**
- **Internet required / Self-directed**
- **Approved by The Royal Society of Biology**

Target Audience

This course is aimed at anyone acting as a practitioner providing advice, support or oversight of the management, control or containment of biological risks.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. This course is taught in English.

Course Description

The Biorisk Advisor Training explores the key topics of biorisk management. Hence, it provides fundamental knowledge for those involved in the management, control or containment of biorisk.

eLearning Modules

Principles of biorisk management, Engagement and impact, Monitoring Ethics and sustainability, Risk assessment and biological hazards, Genetic modification, Containment and control, Personal protective equipment, Competence and training, Incident management, Waste management, Principles of transport of infectious substances.

In-person Modules

Virtual tour of high-containment facilities, open discussion sessions.

Competence and Training: eLearning

- **2-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **6 CPD points**

Target Audience

This eLearning is aimed at anyone involved in the management of laboratory personnel competence.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Effective competence management is critical in ensuring that all staff members have the necessary knowledge and skills to follow the required procedures and to work in a safe manner. This eLearning provides an overview of competence management in an organisation, including the development of an efficient training programme.

Learning Outcomes

Participants will be able to:

- Compare and contrast training and competence.
- Describe competence management and its elements.
- Describe components of a good training programme.
- Describe and compare common techniques for training and competence assessment.

Containment and Control: eLearning

- **5-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **15 CPD points**

Target Audience

This eLearning is aimed at anyone involved in the design and operation of biological laboratories.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Research involving pathogens of animals and humans must be carried out in biological laboratory facilities where engineering controls, procedural controls, and personal protective equipment are used to ensure that those pathogens are not transmitted to laboratory staff, or released into the environment.

Learning Outcomes

Participants will be able to:

- Describe the purpose of biological containment.
- Explain primary containment and secondary containment.
- Explain the design and operation requirements for containment level 2, 3 and 4 laboratories (including laboratory shell and furniture, sealability, ventilation, air filtration, waste sterilisation equipment, decontamination equipment, building management system, redundancy).
- Describe maintenance and testing requirements for biosafety-critical equipment.
- Describe components of laboratory biosecurity.
- Describe the function and principles of operation of biosafety-critical laboratory equipment (e.g. biological safety cabinets).
- Describe principles of good microbiological practice and procedure.

Genetic Modification: eLearning

- **4-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **12 CPD points**

Target Audience

This eLearning is aimed at anyone involved in the management of laboratory personnel competence.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Modern molecular biology techniques permit targeted modification of an organism's genetic material to achieve the desired characteristics quickly and efficiently. The resulting organisms, known as genetically modified organisms (GMOs), have a potential to revolutionise agriculture, food production, disease control, environmental management and fundamental research. However, as our understanding of gene expression and regulation is still limited and imperfect, work involving GMOs must be suitably regulated and managed to prevent harm to people, animals, and the environment.

Learning Outcomes

Participants will be able to:

- Define genetically modified (GM) organism (GMOs), GM micro-organism (GMMs) and a larger GM organism.
- Describe nucleic acids and their function.
- Describe genetic modification.
- Describe fundamental genetic modification technologies.
- Describe the EU GMO framework.
- Describe the UK GMO framework.
- Describe steps of GMM risk assessment.

Incident Management: eLearning

- **5-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **15 CPD points**

Target Audience

This eLearning is aimed at anyone involved in the management of laboratory personnel competence.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Laboratory incidents can result in dangerous situations that pose risk to people, property, equipment, products or the environment. However, a process of emergency preparedness and response can be implemented to either mitigate those risks, or reduce their impact. To be effective, it must be systemic and consider actions to be implemented and followed before, during and after an incident.

Learning Outcomes

Participants will be able to:

- Compare and contrast dangerous occurrences, near-misses and accidents.
- Explain the immediate, underlying and root causes of incidents.
- Describe an incident management strategy.
- Describe emergency procedures and what factors contribute to their development.
- List and explain types of human failures, including errors (skill-based and mistakes) and violations.
- List and explain factors that may contribute to human failures (i.e. human factors).
- Describe how human failures can be reduced.
- Explain incident investigation process and its purpose.

Introduction to Biorisk Management: eLearning

- **6-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **18 CPD points**

Target Audience

This eLearning is aimed at anyone acting as a practitioner providing advice, support or oversight of the management, control or containment of biological risk.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Some biological agents have the potential to cause harm to people, animals or the environment (e.g. plants) through an infection. These biological hazards are known as pathogens. Work with pathogens (e.g. research, diagnostics, manufacturing) must be suitably regulated and managed to prevent harm to people, animals, and the environment that may result from an accidental exposure.

Learning Outcomes

Participants will be able to:

- Describe a national regulatory framework and regulatory oversight.
- Explain the importance of safety culture.
- Explain components of an effective biosafety programme.
- Explain Plan-Do-Check-Act (PDCA) management cycle.
- Describe audits, inspections and performance indicators.
- Explain and contrast staff communication and consultation.
- Describe the role of ethics in biological research.
- Describe impact of laboratory facilities on the environment, and how it can be minimised.

Personal Protective Equipment (PPE): eLearning

- **2-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **6 CPD points**

Target Audience

This eLearning is aimed at anyone involved in the selection and use of PPE.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Personal protective equipment (PPE) is a common laboratory control measure. It includes any equipment and clothing worn by personnel to provide protection against one or more hazards. When selected and used correctly, PPE can be very effective at protecting its user against health or safety risks at work. In a biological laboratory, PPE often includes gloves, laboratory coats or gowns, respiratory protective equipment, laboratory footwear, and face and eye protection.

Learning Outcomes

Participants will be able to:

- Describe key consideration for PPE selection.
- Describe principles for the use, cleaning, disinfection and maintenance of PPE.
- Describe the legal framework underpinning the use of PPE in a laboratory.
- Describe gloves, laboratory coats, protective footwear, respiratory protective equipment, and face and eye protective equipment.
- Describe their use.

Principles of Transport of Infectious Substances: eLearning

- **2-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **6 CPD points**

Target Audience

This eLearning is aimed at anyone involved in the transport of infectious substances on-site or off-site.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Transport and transfer of infectious substances is an inherent part of any biological laboratory operations. All infectious substances must be transported and transferred in a way that reduces the likelihood of their release in order to protect the staff, other personnel, the general community, and the environment.

Learning Outcomes

Participants will be able to:

- Define 'infectious substances' for the purpose of transport and list common examples.
- Define and outline the United Nations (UN) Model Regulations, and UN Modal Regulations on the transport of dangerous goods.
- Describe and explain how overarching regulations are implemented through the International Air Transport Association (IATA) Dangerous Goods Regulations (DGR), Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) and International Maritime Dangerous Goods Code (IMDG).
- Describe key roles and responsibilities.
- Describe general security requirements.
- Describe fundamental process for on-site transfer and off-site transport of infectious substances.

Risk Assessment and Biological Hazards: eLearning

- **4-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **12 CPD points**

Target Audience

This eLearning is aimed at anyone involved in the transport of infectious substances on-site or off-site.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Risk assessment is used to examine what can cause harm and how, and to identify and implement reasonable steps to prevent that harm from happening. Risk assessment is based on common sense and is something we all do every day without thinking. However, in a workplace such as a laboratory, risk assessment is a structured and stepwise process that is key to the risk- and evidence-based approach to risk management.

When implemented correctly, it will ensure that all control measures are locally relevant, proportionate, and sustainable. This in turn will permit meeting scientific goals while preventing harm to people, animals, and the environment.

Learning Outcomes

Participants will be able to:

- Explain risks, hazards, and control measures.
- Describe the role of risk assessment in risk-based approach to biorisk management.
- Explain what requires risk assessment, and when.
- Describe roles and responsibilities in the risk assessment process.
- Explain steps of risk assessment.
- Describe biological hazards.
- Describe what determines the likelihood and consequence of incidents that involve biological hazards.

Waste Management: eLearning

- **4-hour course**
- **Internet required**
- **Self-directed**
- **Approved by The Royal Society of Biology**
- **12 CPD points**

Target Audience

This eLearning is aimed at anyone involved in the management of infectious waste in a laboratory.

Requirements and Qualifications

Basic understanding of how biological laboratories are operated is recommended. The eLearning is presented in English.

Course Description

Waste originating in a biomedical research or diagnostic laboratory may contain biological hazards such as dangerous pathogens. Such waste, typically referred to as 'infectious waste', must be handled and processed correctly to protect laboratory users, other staff members, general public and the environment from risks associated with biological hazards.

Learning Outcomes

Participants will be able to:

- Describe and explain basic principles of infectious waste management.
- Describe and contrast decontamination, chemical disinfection, sterilisation and fumigation.
- Explain chemical disinfectants.
- Explain steam sterilisation.
- Describe limitation and strengths of different methods of infectious waste treatment.

Engineering courses

Biological Safety Cabinets - Maintenance and Validation: eLearning

Summary

- **4-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course has been specifically designed for engineering or laboratory staff who are considering learning more about the requirements of validating biological safety cabinets to BS EN 12469 (2000).

Requirements and Qualifications

A basic knowledge of biological safety cabinets and their use would be advantageous but is not an essential requirement for this course.

Course Description

This course is designed to provide an understanding of Biological Safety Cabinets through the differing classes to maintenance and testing. Maintenance and testing are in accordance with BS EN 12469 (2000) and are also a legal requirement under COSHH. Please note that this part of the course does not include any hands-on practical training.

Learning Outcomes

Participants will be able to:

- Explain the origins, history and purpose of biological safety cabinets.
- Describe how biological safety cabinets work, covering all three classes.
- Explain how to properly maintain a biological safety cabinet and what to look for prior to a validation test.
- Explain the types of validation tests we carry out and the logic behind why we conduct them.

Calibration Basics: eLearning

Summary

- **2-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course acts as a guide for anyone new to calibration who wants to understand its history, background and the key concept of traceability.

Requirements and Qualifications

There are no specific requirements for this course. It is intended as a basic introduction to the need for and approach to calibration.

Course Description

This course is designed to provide an understanding of the background and reasons for calibration. It covers the development of the SI units, and the role SI units play in ensuring calibration is the same worldwide. It also overviews the concept and need for traceability and the role UKAS plays in calibration.

Learning Outcomes

Participants will be able to:

- Explain the background and origin of the need for calibration.
- Explain the use of SI units in calibration.
- Explain the concept of the unbroken chain of traceability.

Explain the concept of measurement uncertainty and the importance of stating this on calibration certificates.

HEPA Filtration - Validation, Testing and Changing: eLearning

Summary

- **4-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course is designed primarily for maintenance technicians and those wanting an introduction to the principles of testing, validating and changing HEPA filters that are installed in air handling systems, forming part of a biocontainment barrier.

Requirements and Qualifications

Participants will be expected to have the basic knowledge of HEPA filtration. An understanding of testing and validation would be advantageous but is not necessary.

Course Description

The course is designed to provide an understanding of HEPA filters, from their background and grading, to testing and handling, finishing on changing and disposal. Covering both the volumetric and face-scanning methods of testing it refers to standards EN 1822-1 and BS EN ISO 14644-3:2019.

Learning Outcomes

Participants will be able to:

- Explain the history, construction and grading of HEPA filters.
- Explain the principles of the volumetric method of testing and validating HEPA filters.
- Explain to the principles of face scanning testing and validating HEPA filters.
- Explain the principles of changing HEPA filters via the safe change (bag-out, bag-in) method.

HEPA Filtration - Validation, Testing and Changing: Instructor-led

Summary

- **1-day course**
- **Up to 6 participants**
- **Training Laboratory**

Who Should Attend

Engineering/maintenance staff who are responsible for the testing, validation and changing of HEPA filters Installed in biocontainment air handling systems.

Requirements and Qualifications

Participants will be expected to have the basic knowledge of HEPA filtration. Understanding of testing and validation would be advantageous but is not essential.

Course Description

The course is designed to provide an understanding of HEPA filters, from their background and grading, to testing and handling, and onward to changing and disposal. Covering both the volumetric and face-scanning methods of testing to standards EN 1822-1 and BS EN ISO 14644-3:2019. There is also a practical element to this course, giving hands on experience of testing and changing a filter under containment conditions, using our purpose-built training rig.

Learning Outcomes

Participants will be able to:

- Explain the history, construction and grading of HEPA filters.
- Explain the principles of the volumetric method of testing and validating HEPA filters.
- Explain to the principles of face scanning testing and validating HEPA filters.
- Demonstrate changing HEPA filters via the safe change (bag-out, bag-in) method.

Process Safety Through Failure Mode and Effect Analysis FMEA: eLearning

Summary

- **2-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course has been specifically designed for any staff who are invited to participate in an FMEA, or those wanting a refresher on how to lead an FMEA exercise.

Requirements and Qualifications

A basic knowledge of the approach to risk assessments would be an advantage.

Course Description

This eLearning module, details the steps taken to conduct a Failure Mode and Effect Analysis (FMEA) exercise. It focuses on the application of FMEA to a process rather than a service or product. To provide context it describes FMEA as a tool used as part of the approach known as process safety. However FMEA can be used outside of process safety in order to reduce risk in any process, product or service.

Learning Outcomes

Participants will be able to:

- Summarise the steps involved in conducting an FMEA.
- To explain how FMEA supports the overall approach to process safety.
- Explain the difference between process and product FMEAs.
- Explain the completed FMEA form and its content.

Safe Systems of Work and The Institute Permit to Work process: eLearning

Summary

- **2-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course acts as an introduction to the need for organisations to implement “Safe Systems of Work”. It will benefit any employee who is has taken on the responsibility for designing or overseeing their organisation’s Safe Systems of Work and those employees who are directly involved in raising any documentation that relates to it, such as risk assessments, method statements and permits to work. It will be especially relevant to those working in biocontainment and high hazard or COMAH sites.

Requirements and Qualifications

No prior knowledge is required, however working in an environment where safe working is critical would make this course relevant.

Course Description

This course is designed to provide an understanding of the need for Safe Systems of Work (SSoW) and how along with a robust Permit to Work (PtW) system they can help to both identify and reduce risk. Each organisation is different and will adopt a system that is appropriate for their needs and this course explains how it is applied at The Pirbright Institute to provide context only. It is designed as a basic introduction to the practical application of these systems.

Learning Outcomes

Participants will be able to:

- Explain the cost to the UK economy of accidents at work.
- Explain the legal requirements for a safe system of work.
- Describe the individual elements of a permit to work system.
- Explain how this is applied at The Pirbright Institute.

Sealability: eLearning

Summary

- **2-hour course**
- **Internet required**
- **Self-directed**

Target Audience

This course acts as a guide for anyone considering the implementation of regular sealability testing of high containment CL3 and CL4 laboratory areas.

Requirements and Qualifications

An understanding or the requirement of running and managing high containment CL3 and CL4 laboratory areas.

Course Description

This online course has been designed by The Pirbright Institute to give you an understanding of the need for sealability of rooms and zones within high containment laboratory areas. Upon completion of the course, you will have an increased understanding of the reasons for and principles behind sealability testing, helping you to be able to apply these to your own specific laboratory environment.

Learning Outcomes

Participants will be able to:

- Explain the legal background surrounding the need for sealability testing within CL3 and CL4 containment laboratories.
- Describe three different potential leak paths.
- Explain five different approaches to detecting and quantifying leaks.
- Explain the application of a duct leak tester.

Understanding the Role of Engineering in Biological Containment: Blended learning

Summary

- **6-hour eLearning / 4-day in-person**
- **Up to 8 participants**
- **Internet required / Self-directed**
- **The Pirbright Institute**

Target Audience

This programme is suitable for:

- Facilities engineers.
- Technical staff entering biocontainment environments.
- Apprentices working in mechanical or electrical engineering.
- Biosafety professionals.
- Facility managers responsible for containment infrastructure.

Course Description

High-containment laboratories rely on carefully designed engineering systems that prevent the escape of dangerous pathogens. Maintaining these systems requires specialist knowledge that combines engineering, biosafety principles and operational planning. This programme, delivered by experts at The Pirbright Institute, introduces the fundamental concepts behind the containment barrier and explains how it is managed, maintained and validated.

Learning Outcomes

Participants will gain an understanding of:

- What pathogens are and how they are classified.
- The purpose of the containment barrier.
- The consequences of pathogen escape.
- Key engineering principles used to maintain containment.
- Validation processes used in high-containment facilities.
- The balance between planned and reactive maintenance.

Specific building information

Centre for Collaborative Learning (CCL)

Dedicated conference facilities which cater for up to 120 people as a large facility or can be split into three separate rooms for break-out areas or to suit smaller groups. Audio-visual systems are available in all three rooms.

The BBSRC National Vaccinology Centre: The Jenner Building

Low containment (CL2) facilities, primarily for research on avian viral diseases. Laboratory spaces are bright and spacious, with conference rooms located in the building for collaborative discussions and theoretical training. General laboratory standards apply.

The BBRSC National Virology Centre: The Plowright Building and the large animal isolation units

High containment (CL4) facilities - The rules follow the EU minimum biorisk management standards for laboratories working with FMDV and all staff and visitors need to adhere to these as a minimum, regardless of which virus they have been using. These standards include:

- Quarantine from cloven hooved animals (e.g., cows, pigs, sheep, alpacas etc) for a period of 72 hours following exit of the contained area(s).
- A change of clothing to be able to enter the contained area(s) – clothing supplied including head covering.
- A full shower including hair wash upon exit - showering products are provided.
- No personal possessions including jewellery (except for spectacles) can be taken into the contained areas.
- Air cascades through the building – please follow instructions from your host regarding the opening and closing of doors.

Plant Rooms

These spaces have been risk assessed for training courses. Steel toe cap boots are not necessary; however, trainees will be required to wear sturdy, closed footwear i.e., no sandals.

Training Laboratory

Dedicated training laboratory located outside of the biological containment envelope that allows the completion of biosafety and biocontainment engineering training in a safe environment. The laboratory is fitted with training equipment such as Class I and I/III hybrid biological safety cabinets. The laboratory is also fitted with audio-visual equipment to further enhance the learning experience.

For all buildings, please follow all additional instructions from the host and always stay with them.

Location

The Pirbright Institute is situated on the south side of Ash Road (left side when coming from the Woking direction).

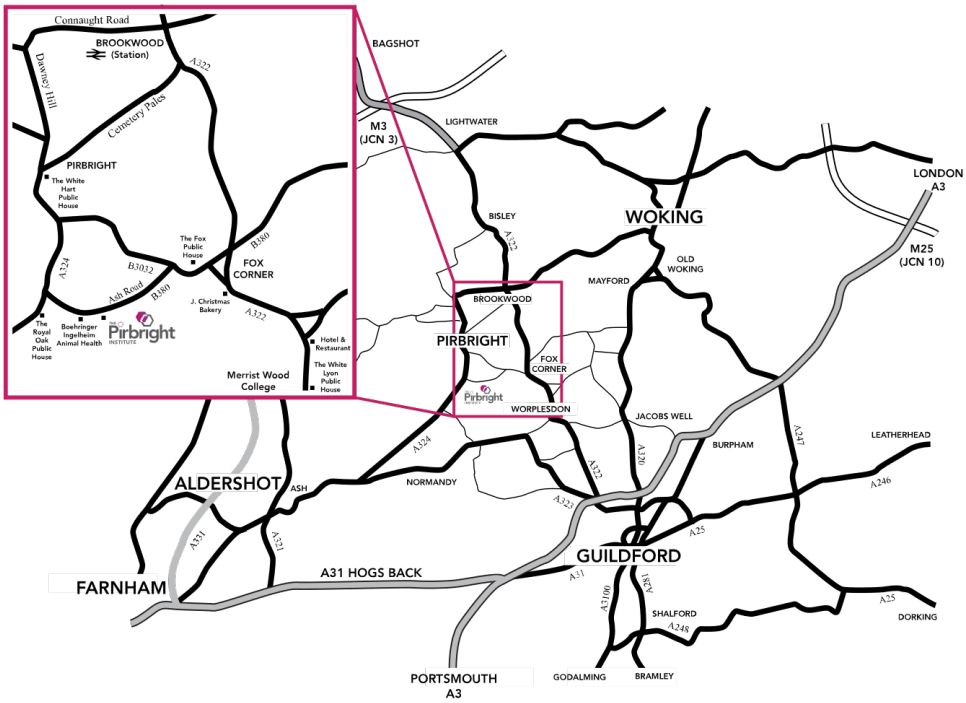
Closest airport: Heathrow

- Trains to Woking or Brookwood then Bus route: Falcon, Route 28

Closest train stations:

- Brookwood (2.7 miles) Then use Bus route: Falcon, Route 28
- Worplesdon (2.9 miles) Continue using taxi

The Pirbright Institute
Ash Road
Pirbright
Woking
GU24 0NF



Contact

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