



Collaborative Institutional Training Initiative
at the University of Miami

citiprogram.org

Animal Care and Use (ACU)

The CITI Program's ACU series is designed to meet the needs of faculty, post-docs, graduate students, technicians, and any other persons involved in the conduct of research that uses non-human vertebrate animals. This section of the course catalog provides a description of each course within the ACU series and of the specific modules that make up each course.

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Working with the IACUC

This course is intended for laboratory research personnel who will write animal-use protocols for review by an Institutional Animal Care and Use Committee (IACUC) member or who will handle animals under such protocols. It provides basic information regarding the U.S. regulations for protection of animal subjects used in research, teaching, and testing. It describes the sources and applicability of regulations governing animals in these uses. It describes the role, authority, and composition of the IACUC, the types of IACUC review, and the items of information required for the review. It discusses animal surgery, blood sample collection, antibody production (though this is discussed specifically in the *Antibody Production in Animals* course), and euthanasia. General discussions are also provided for requirements for personnel training and experience, and occupational health and safety. Recommendations for housing rodents, exercising dogs, enriching the environment of primates, and using human patient care areas for animals are provided. Finally, there is a discussion of the requirements for making changes in a project involving animals and the procedures for reporting inappropriate use of animals.

Module title	Recommended Use
Introduction to Working with the IACUC	Required
Working with the IACUC	Required
Federal Mandates	Required
The Veterinary Consultation	Required
Getting Started	Required
Alternatives	Required
Avoiding Unnecessary Duplication	Required
USDA Pain/Distress Categories	Required
Endpoint Criteria	Required
Surgery	Required
Antibody Production	Required
Collecting Blood Samples	Required
Personnel Training and Experience	Required
Occupational Health and Safety	Required

Using Hazardous and Toxic Agents in Animals	Required
Housing Social Animals	Required
Housing Rodents on Wire Floors	Required
Dog Exercise	Required
Primate Psychological Enrichment	Required
Prolonged Restraint	Required
Euthanasia	Required
Using Human Patient Care Areas for Animal Research	Required
Using Explosive Agents in the Animal Facility	Required
Making Changes after You Receive Approval	Required
Reporting Misuse, Mistreatment, or Non-Compliance	Required
Final Comments	Required

Introduction to Working with the IACUC

This module serves as an introduction to the *Working with the IACUC* course. It provides an overview of the overall goal and specific objectives that this course seeks to achieve.

Language Availability

English (ID: 1807)

CEU Approval(s)

N/A

Working with the IACUC

This module discusses the elements of working with an IACUC including who you should get in touch with when planning animal experiments, and the various roles and functions of the IACUC.

Language Availability

English (ID: 1808)

CEU Approval(s)

N/A

Federal Mandates

This module discusses the basic laws, guidelines, regulatory documents, and federal agencies that govern animal research in the United States.

Language Availability

English (ID: 1809)

CEU Approval(s)

N/A

The Veterinary Consultation

This module discusses the mandate for consulting with a laboratory animal veterinarian during the planning stages of any project that will involve more than momentary or slight pain and/or distress to animals.

Language Availability

English (ID: 1810)

CEU Approval(s)

N/A

Getting Started

This module discusses the steps for completing and justifying your answers to important items contained within a typical animal protocol form.

Language Availability

English (ID: 1811)

CEU Approval(s)

N/A

Alternatives

This module discusses the concept of the "Three R's," the legal mandate for considering alternatives, and the various alternative and database search resources available to you.

Language Availability

English (ID: 1812)

CEU Approval(s)

N/A

Avoiding Unnecessary Duplication

This module discusses the regulatory mandate that prohibits the unnecessary duplication of previous animal studies, and how you can comply with the mandate.

Language Availability

English (ID: 1813)

CEU Approval(s)

N/A

USDA Pain/Distress Categories

This module discusses how to correctly classify experimental procedures on laboratory animals into one of the four United States Department of Agriculture (USDA) pain/distress categories.

Language Availability

English (ID: 1814)

CEU Approval(s)

N/A

Endpoint Criteria

This module discusses the need for and common examples of endpoint criteria.

Language Availability

English (ID: 1815)

CEU Approval(s)

N/A

Surgery

This module discusses survival, non-survival, major, minor, and multiple major survival surgeries. It also presents the need to document postoperative care and the concept of fasting animals prior to surgery is covered.

Language Availability

English (ID: 1816)

CEU Approval(s)

N/A

Antibody Production

This module discusses the production of polyclonal and monoclonal antibodies in animals, which is critical for biomedical research progress.

Language Availability

English (ID: 1817)

CEU Approval(s)

N/A

Collecting Blood Samples

This module presents the guidelines to prevent excess blood collection in all animals including some special information on collecting blood from rodents.

Language Availability

English (ID: 1818)

CEU Approval(s)

N/A

Personnel Training and Experience

This module discusses the importance of training for personnel involved in animal research, and the need for the IACUC to ensure personnel are qualified to perform the procedures proposed in the animal protocol forms.

Language Availability

English (ID: 1819)

CEU Approval(s)

N/A

Occupational Health and Safety

This module discusses the institutional requirement for an Occupational Health and Safety Program (OSHA), as well as some of the typical services a program may offer.

Language Availability

English (ID: 1820)

CEU Approval(s)

N/A

Using Hazardous and Toxic Agents in Animals

This module discusses the guidelines to follow when performing work on animals involving toxic or infectious agents, the four biosafety levels and their corresponding animal biosafety levels, corresponding safety levels for working with recombinant DNA, and working with "select agents" with biological warfare potential.

Language Availability

English (ID: 1821)

CEU Approval(s)

N/A

Housing Social Animals

This module discusses the need to house social animals in pairs or groups whenever possible, and the need to justify single housing.

Language Availability

English (ID: 1822)

CEU Approval(s)

N/A

Housing Rodents on Wire Floors

This module discusses the need to preferentially house rodents in solid bottom cages with contact bedding.

Language Availability

English (ID: 1823)

CEU Approval(s)

N/A

Dog Exercise

This module discusses the requirement for an institutional dog exercise program.

Language Availability

English (ID: 1824)

CEU Approval(s)

N/A

Primate Psychological Enrichment

This module discusses the requirement for an institutional primate psychological enrichment program.

Language Availability

English (ID: 1825)

CEU Approval(s)

N/A

Prolonged Restraint

This module discusses the guidelines for prolonged restraint of animals.

Language Availability

English (ID: 1826)

CEU Approval(s)

N/A

Euthanasia

This module discusses the various methods of euthanasia for animals.

Language Availability

English (ID: 1827)

CEU Approval(s)

N/A

Using Human Patient Care Areas for Animal Research

This module discusses being sensitive to cleanliness when human clinical areas are used for animal research.

Language Availability

English (ID: 1828)

CEU Approval(s)

N/A

Using Explosive Agents in the Animal Facility

This module discusses using explosive agents, such as ether, to anesthetize or euthanize animals in the animal facility.

Language Availability

English (ID: 1829)

CEU Approval(s)

N/A

Making Changes after You Receive Approval

This module discusses the requirement for obtaining IACUC approval prior to making significant changes to animal procedures.

Language Availability

English (ID: 1830)

CEU Approval(s)

N/A

Reporting Misuse, Mistreatment, or Non-Compliance

This module discusses the procedures for reporting misuse or mistreatment of animals or non-compliance of federal regulations or guidelines.

Language Availability

English (ID: 1831)

CEU Approval(s)

N/A

Final Comments

This module provides final remarks regarding the *Working with the IACUC* course.

Language Availability

English (ID: 1832)

CEU Approval(s)

N/A

Working with the IACUC – Refresher

Personnel who have completed the *Working with the IACUC* course and whose institution requires a refresher are intended to use this course. It offers reviews of many of the topics covered in the basic course, but adds additional depth, expanding on points that are often sources of concerns and questions by Institutional Animal Care and Use Committees (IACUCs) and animal users.

Module title	Recommended Use
Introduction to Working With the IACUC - Refresher Course	Required
The Regulators	Required
Responsibility	Required
Justifying Animal Use	Required
Consider Alternatives	Required
Duplication	Required
Training	Required
Housing and Husbandry	Required
Monitoring and Controlling Pain and Distress	Required
Surgery	Required
Post-procedure Monitoring and Care	Required
Endpoints	Required
Euthanasia	Required
Occupational Health and Safety	Required
Final Words	Required
References	Required

Introduction to Working With the IACUC - Refresher Course

This module serves as an introduction to the *Working with the IACUC – Refresher* course. It discusses its goal to review and reinforce important concepts in the humane use of animals in support of scientific advancement.

Language Availability

English (ID: 13780)

CEU Approval(s)

N/A

The Regulators

This module reviews the principal federal rules affecting animal use in research: *The Animal Welfare Act of 1966 (as amended in 1970, 1976, 1985, 1990 and 2002)* and the *Health Research Extension Act of 1985*.

Language Availability

English (ID: 13781)

CEU Approval(s)

N/A

Responsibility

The module reviews the certain responsibilities for humane care and use of research animals to the institution that hosts the animal use activities. It also reviews the responsibilities and make up of an IACUC.

Language Availability

English (ID: 13782)

CEU Approval(s)

N/A

Justifying Animal Use

This module reviews the protocol that must be presented when proposing work with animal subjects. It is important to note that animals should be used only for work that is likely to benefit human or animal health, or the good of society, or add to important scientific knowledge.

Language Availability

English (ID: 13783)

CEU Approval(s)

N/A

Consider Alternatives

This module reviews the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in animals that are likely to cause pain and/or distress.

Language Availability

English (ID: 13784)

CEU Approval(s)

N/A

Duplication

This module reviews the idea that each investigator is required to provide a statement to the IACUC that the proposed work does not needlessly duplicate previous work.

Language Availability

English (ID: 13785)

CEU Approval(s)

N/A

Training

This module reviews the need for proper training of investigators before performing procedures pertaining to animals.

Language Availability

English (ID: 13786)

CEU Approval(s)

N/A

Housing and Husbandry

This module reviews the need for an established program at your institution for the housing and husbandry of all the species that are held there. It reviews all elements of housing and husbandry including the proper types of housing, food, cleanliness, environment, and safety. It also discusses the humane considerations that are involved with restrained animals.

Language Availability

English (ID: 13787)

CEU Approval(s)

N/A

Monitoring and Controlling Pain and Distress

This module reviews the monitoring and controlling of pain or discomfort in animals.

Language Availability

English (ID: 13788)

CEU Approval(s)

N/A

Surgery

This module reviews surgery in animal experiments, a prominent area of the IACUC oversight, which is of particular interest to the investigator due to its potential to cause pain and distress for the animal.

Language Availability

English (ID: 13789)

CEU Approval(s)

N/A

Post-procedure Monitoring and Care

This module reviews the good practice requirements for monitoring the well-being of an animal until they are fully recovered from surgery.

Language Availability

English (ID: 13790)

CEU Approval(s)

N/A

Endpoints

This module reviews what to consider for ending an animal's involvement in a study. This is an important decision, as animals can't ask to be released from a research study when they have had enough.

Language Availability

English (ID: 13791)

CEU Approval(s)

N/A

Euthanasia

This module reviews the matters that should be taken into account when planning for the euthanasia of an animal.

Language Availability

English (ID: 13792)

CEU Approval(s)

N/A

Occupational Health and Safety

This module reviews the different elements of occupational health and safety that should be taken into consideration while working with animals.

Language Availability

English (ID: 13793)

CEU Approval(s)

N/A

Final Words

This module serves as a review to the *Introduction to Working with the IACUC – Refresher* course.

Language Availability

English (ID: 13846)

CEU Approval(s)

N/A

References

This module presents the references that were used in the *Introduction to Working with the IACUC – Refresher* course.

Language Availability

English (ID: 13794)

CEU Approval(s)

N/A

Essentials for IACUC Members

This course is intended for persons who are members of an Institutional Animal Care and Use Committee (IACUC). It assumes the user is already familiar with the content of the *Working with the IACUC* course, and it delves into the IACUC's responsibilities, authority, membership, and relationship to the institutional officer (IO). It discusses the review of animal-use protocols and the required semi-annual program review and facilities inspection. Finally, the procedures for investigating allegations of improper animal care and use are discussed.

Module title	Recommended Use
Introduction to Essentials for IACUC Members	Required
Responsibilities of the IACUC and IACUC Members	Required
The Members of the IACUC	Required
The IACUC, the CEO, and the IO	Required
Authority of the IACUC	Required
Conducting IACUC Business--The Quorum	Required
Procedures for Reviewing Protocol Forms	Required
Outcomes of Animal Protocol Reviews	Required
The Types of Protocol Reviews	Required
Documenting IACUC Actions	Required
The IACUC Semi-Annual Evaluation	Required
Performing the Facility Inspection and the Program Review	Required
Identifying, Documenting, and Correcting Deficiencies	Required
Investigating Allegations of Improper Animal Care or Use	Required
Maintaining the Public Trust	Required

Introduction to Essentials for IACUC Members

This module provides an overview to the *Essentials for IACUC Members* course. It outlines the goals and objectives that this course seeks to achieve.

Language Availability

English (ID: 1833)

CEU Approval(s)

N/A

Responsibilities of the IACUC and IACUC Members

This module covers the basic role and responsibilities of the IACUC. It also discusses the responsibilities of individual IACUC members and the best practices in upholding these responsibilities.

Language Availability

English (ID: 1834)

CEU Approval(s)

N/A

The Members of the IACUC

This module discusses the Public Health Service (PHS) policy and the U.S. Department of Agriculture (USDA) Animal Welfare Act Regulations (AWAR), both of which require members with certain backgrounds and skills to serve on an IACUC. Only an IACUC that has all the required members appointed is considered to be a *constituted* IACUC.

Language Availability

English (ID: 1835)

CEU Approval(s)

N/A

The IACUC, the CEO, and the IO

This module covers the roles, responsibilities, and best practices for the CEO and the IO of an institution as they interact with an IACUC.

Language Availability

English (ID: 1836)

CEU Approval(s)

N/A

Authority of the IACUC

This module discusses the authority of an IACUC when it comes to approving and suspending certain activities involving animals in research, teaching, and testing.

Language Availability

English (ID: 1837)

CEU Approval(s)

N/A

Conducting IACUC Business--The Quorum

This module discusses the necessity of a quorum when conducting any formal business within an IACUC. It also delves into the different guidelines and methods that a quorum must follow when conducting business.

Language Availability

English (ID: 1838)

CEU Approval(s)

N/A

Procedures for Reviewing Protocol Forms

This module reviews the process and procedures that an IACUC must follow for protocol reviews.

Language Availability

English (ID: 1839)

CEU Approval(s)

N/A

Outcomes of Animal Protocol Reviews

This module reviews the different options that an IACUC may follow when deliberating the fate of a protocol as part of a full committee review at a convened meeting of quorum, as determined by the USDA Animal Welfare Act Regulations and the PHS policy.

Language Availability

English (ID: 1840)

CEU Approval(s)

N/A

The Types of Protocol Reviews

This module reviews the different categories of protocol reviews that an IACUC must consider for all approved animal activities.

Language Availability

English (ID: 1841)

CEU Approval(s)

N/A

Documenting IACUC Actions

This module discusses the importance of documenting, in writing, all IACUC deliberations and actions.

Language Availability

English (ID: 1842)

CEU Approval(s)

N/A

The IACUC Semi-Annual Evaluation

This module is the first lesson of three for the topic of semi-annual evaluations by the IACUC. This lesson covers the basic requirement for performing the evaluation and the components of the review.

Language Availability

English (ID: 1843)

CEU Approval(s)

N/A

Performing the Facility Inspection and the Program Review

This module serves as the second lesson for the topic of semi-annual evaluations by the IACUC. It discusses two distinct components to the IACUC semi-annual self-evaluation: the facilities inspection and the program review.

Language Availability

English (ID: 1844)

CEU Approval(s)

N/A

Identifying, Documenting, and Correcting Deficiencies

This module serves as the final lesson for the topic of semi-annual evaluations by the IACUC. It discusses the categories that an IACUC must place all deficiencies in when a semi-annual evaluation has been completed.

Language Availability

English (ID: 1845)

CEU Approval(s)

N/A

Investigating Allegations of Improper Animal Care or Use

This module discusses the legal responsibility given to the IACUC to review, and if warranted, investigate allegations of improper animal use or concerns about such use.

Language Availability

English (ID: 1846)

CEU Approval(s)

N/A

Maintaining the Public Trust

This module discusses the responsibility that comes with being a part of an IACUC. It is important to remember that an effective IACUC ensures that public trust is maintained.

Language Availability

English (ID: 1847)

CEU Approval(s)

N/A

Essentials for IACUC Members – Refresher [under development]

This course is intended for members of an Institutional Animal Care and Use Committee (IACUC) who have completed the *Essentials for IACUC Members* course and whose institution requires a refresher. It represents a completely new format for CITI Program courses. Users are presented with a small number of scenarios that present "real-life" problems encountered by IACUCs. They are asked to express opinions or select alternative actions that the IACUC or the principal investigator could take. In many cases, both sides of contentious issues are presented. This approach is intended to form an interesting re-encounter of issues for IACUC members.

IACUC Community Member

The *IACUC Community Member* course is intended for community representatives within an Institutional Animal Care and Use Committee (IACUC). Community representatives should take this course, not the *Essentials for IACUC Members* course, as it is specifically designed for them. The course covers ethics, regulations and the IACUC, IACUC basics, full-committee meetings and DMR, and other responsibilities as well as additional tips for IACUC community members.

Module title	Recommended Use
Ethics, Regulations and the IACUC	Required
IACUC Basics	Required
Full-committee Meetings and DMR	Required
Other Responsibilities of IACUC Members	Required
Additional Tips for Community Members	Required

Ethics, Regulations and the IACUC

This module provides a brief history of the regulations and the formation of the IACUC, reasons for community member involvement, and answers to common questions from community members.

Language Availability

English (ID: 15167)

CEU Approval(s)

N/A

IACUC Basics

This module describes the essentials of IACUC regulations, policies, and procedures.

Language Availability

English (ID: 15169)

CEU Approval(s)

N/A

Full-committee Meetings and DMR

This module details what community members may expect when participating in designated member review (DMR) and full-committee review of IACUC business.

Language Availability

English (ID: 15170)

CEU Approval(s)

N/A

Other Responsibilities of IACUC Members

This module describes the community member's involvement in facility inspections, review of semiannual program evaluations, and other duties of the IACUC member.

Language Availability

English (ID: 15171)

CEU Approval(s)

N/A

Additional Tips for Community Members

This module contains suggestions for community members to help them review protocols and build community member skills.

Language Availability

English (ID: 15172)

CEU Approval(s)

N/A

Aseptic Surgery

This single-module course is intended primarily for personnel who will be proposing or actually performing survival surgery on animals. U.S. federal regulations require that all survival surgery be performed aseptically. This course discusses the facilities and equipment recommended for performing such surgery and the training of surgical personnel. It discusses in a general way the need for and process of sterilization, the preparation of instruments and supplies, and the preparation of the animal and the surgeon for surgery.

Module title	Recommended Use
Aseptic Surgery	Required

Aseptic Surgery

This module discusses the principles of aseptic technique with an emphasis on the practical application of these principles in the laboratory setting.

Language Availability

English (ID: 12840)

CEU Approval(s)

N/A

Post Procedure Care of Mice and Rats in Research: Reducing Pain and Distress

This course provides information on how to minimize pain and distress in mice and rats during and after experimental procedures for personnel who work with these animals. It is assumed that the user has already completed the *Working with the IACUC* course. This course provides training in the detection and monitoring signs of pain in animals. It discusses the use of animal appearance and behavior, physical condition, and body weight in the monitoring process. The role of body temperature and fluid, and electrolyte balance in animal welfare are also discussed. Particular attention is paid to the growth of tumors in the production of pain and distress. Of course, there is a discussion of the alleviation of pain and distress in the post-procedure animal.

Module title	Recommended Use
Introduction to Post-Procedure Care of Mice and Rats in Research: Minimizing Pain and Distress	Required
Investigator Responsibility	Required
Minimizing Sources of Nonexperimental Variation	Required
Systematically Monitoring for Pain and Distress	Required
Detecting Clinical Signs of Pain and Distress	Required
Appearance and Behavior	Required
Physical Exam for Clinical Condition	Required
Body Weight	Required
Fluid and Electrolyte Balance	Required
Body Temperature	Required
Tumors	Required
Alleviation of Pain and Distress	Required
Documentation of Post-Procedure Care	Required
Summary	Required
References	Required

Introduction to Post-Procedure Care of Mice and Rats in Research: Minimizing Pain and Distress

This module serves as an introduction to the *Post-Procedure Care of Mice and Rats in Research: Minimizing Pain and Distress* course. It reviews the goals and objectives that this course seeks to achieve.

Language Availability

English (ID: 1868)

CEU Approval(s)

N/A

Investigator Responsibility

This module discusses the investigators' responsibilities for minimizing pain and distress in research animals. A concise description of the requirements for the humane care and use of laboratory animals is also provided.

Language Availability

English (ID: 1869)

CEU Approval(s)

N/A

Minimizing Sources of Nonexperimental Variation

This module discusses the importance and best practices for maximizing the humane care and use of laboratory animals while minimizing confounders (unwanted, uncontrolled experimental variation) to achieve integrity of the research data.

Language Availability

English (ID: 1870)

CEU Approval(s)

N/A

Systematically Monitoring for Pain and Distress

This module discusses the process of systematically monitoring animals after a procedure or when illness is expected, to reduce non-experimental variation caused by animal pain or distress.

Language Availability

English (ID: 1871)

CEU Approval(s)

N/A

Detecting Clinical Signs of Pain and Distress

This module discusses how to detect pain and distress within a rodent. It presents common signs as well as the proper way to perform a clinical exam on a rodent.

Language Availability

English (ID: 1872)

CEU Approval(s)

N/A

Appearance and Behavior

This module discusses the proper process for inspecting the appearance and behavior of rodents. It also presents a common approach to assessing animal appearance through the observation of several parameters.

Language Availability

English (ID: 1873)

CEU Approval(s)

N/A

Physical Exam for Clinical Condition

This module discusses physical exams using methods that are appropriate to rodents. It presents specific methods and equipment for rodents, which allow a clinical exam to provide information on animal well-being.

Language Availability

English (ID: 1874)

CEU Approval(s)

N/A

Body Weight

This module discusses the vital role of monitoring body weight changes in rodents while executing experiments using these animals. It presents the different body condition scores and ways to provide nutritional support to these animals.

Language Availability

English (ID: 1875)

CEU Approval(s)

N/A

Fluid and Electrolyte Balance

This module discusses the importance of maintaining a fluid and electrolyte balance in rodents during experimental procedures. It explains in detail, how to test rodents for dehydration, the process for performing a urinalysis, and the proper treatment for an imbalance of fluids and electrolytes.

Language Availability

English (ID: 1876)

CEU Approval(s)

N/A

Body Temperature

This module discusses the importance of maintaining a proper body temperature within rodents during experimental procedures. It also presents information regarding the use of devices and the process for treating hypothermia.

Language Availability

English (ID: 1877)

CEU Approval(s)

N/A

Tumors

This module discusses how the growth of tumors produces pain and distress in rodents just as in humans and other animals. It further analyzes how to assess a tumor and the proper treatment for tumors on rodents.

Language Availability

English (ID: 1878)

CEU Approval(s)

N/A

Alleviation of Pain and Distress

This module discusses the detection and alleviation of pain or discomfort in rodents. It also presents the idea that the effective recognition of pain and distress should not rely on a single clinical observation but rather on a composite of signs and measurements that together reflect animal well-being in terms of pain or distress.

Language Availability

English (ID: 1879)

CEU Approval(s)

N/A

Documentation of Post-Procedure Care

This module addresses the documentation of exam findings and treatments. It analyzes the benefits of using a records management system and a defined scoring system to aid in documenting the status of animals over time.

Language Availability

English (ID: 1880)

CEU Approval(s)

N/A

Summary

This module provides an overview to the *Post Procedure Care of Mice and Rats in Research: Reducing Pain and Distress* course. It reviews the importance of good animal care during experimental procedures.

Language Availability

English (ID: 1881)

CEU Approval(s)

N/A

References

This module provides a list of references for the content used in the *Post Procedure Care of Mice and Rats in Research: Reducing Pain and Distress* course.

Language Availability

English (ID: 1882)

CEU Approval(s)

N/A

Antibody Production in Animals

This single-module course is intended for people who plan to make their own antibodies or have them made by someone else within their same institution. Under these conditions, the Institutional Animal Care and Use Committee (IACUC) may require more information for its review than when antibodies are to be purchased. This course discusses the production of polyclonal antibodies: the use of antigens and adjuvants and their ability to produce pain and distress. It discusses the process of immunization: its location and procedures. In addition, this course discusses the production of monoclonal antibodies and the use of ascites collection.

Module title	Recommended Use
Antibody Production in Animals	Required

Antibody Production in Animals

This module discusses the production of polyclonal antibodies: the use of antigens and adjuvants and their ability to produce pain and distress. It discusses the process of immunization: its location and procedures. In addition, this course discusses the production of monoclonal antibodies and the use of ascites collection.

Language Availability

English (ID: 13325)

CEU Approval(s)

N/A

Wildlife Field Studies [under development]

This course is intended for persons who will write animal-use protocols for review by an Institutional Animal Care and Use Committee (IACUC) or handle wildlife animals under such protocols, and it provides basic information regarding the U.S. regulations for protection of wildlife animal subjects used in research, teaching, and testing. It describes the sources and applicability of regulations governing animals in these uses. It describes the role, authority, and composition of the IACUC as well as the types of IACUC review and the items of information required for the review. It discusses in a general way: the types of field studies, methods of animal capture, principles and methods of restraint, animal marking, animal transportation and housing, maintenance of wildlife in captivity, translocation and release, animal surgery, blood sample collection, recognition and management of pain, and euthanasia. Animal users who will be doing laboratory studies on animals should consider taking the *Working with the IACUC* course as an alternative to the course.

Animal-Specific Courses

The animal-specific courses are intended for personnel who will use a specific class of animal for a research project. It may be that more than one course should be completed because more than one class of animals will be used. Each of these courses address issues specific to a single class of animals. These issues include taxonomy of the class, occupational health issues, and special acclimation and quarantine requirements. Special features of the biology and genetics of the class that make it appropriate for certain kinds of research are discussed. Also presented, are special considerations in handling, pain and distress, and pain relief along with special considerations for surgery, blood collection, injections, supportive care and monitoring, and euthanasia.

Working with Amphibians in Research Settings

This course addresses issues in the use of amphibians in research.

Module title	Recommended Use
Introduction to Working with Amphibians in Research Settings	Required
Taxonomy, Research Mandates, and Occupational Health Issues	Required
Alternatives Search, Housing, Source, and Acclimation and Quarantine	Required
Biology, Pain and Distress, Handling, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Amphibians in Research Settings

This module serves as an introduction to the *Working with Amphibians in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 2077)

CEU Approval(s)

N/A

Taxonomy, Research Mandates, and Occupational Health Issues

This module discusses the taxonomy of the class Amphibia. It also presents the research mandates and occupational health issues that relate to amphibians.

Language Availability

English (ID: 2078)

CEU Approval(s)

N/A

Alternatives Search, Housing, Source, and Acclimation and Quarantine

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in animals that are likely to cause pain and/or distress. It also presents the best practices for housing, sourcing, acclimation, quarantine, and conditioning of amphibians.

Language Availability

English (ID: 2081)

CEU Approval(s)

N/A

Biology, Pain and Distress, Handling, and Pain Relief

This module discusses the important and interesting biological features of amphibians. It also analyzes the detection of pain and distress, proper handling procedures, and dose rates for the common drugs and drug regimens.

Language Availability

English (ID: 2085)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques for amphibians, supportive care and monitoring, and euthanasia. It also presents the references that were used for the *Working with Amphibians in Research Settings* course.

Language Availability

English (ID: 2089)

CEU Approval(s)

N/A

Working with Cats in Research Settings

This course addresses issues in the use of cats in research.

Module title	Recommended Use
Introduction to Working with Cats in Research Settings	Required
Research Mandates and Occupational Health Issues	Required
Alternatives Search, Humane Standards, Housing, Source, and Acclimation and Quarantine	Required
Detecting Pain and Distress, and Biological Features	Required
Injections, Blood Collection, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Cats in Research Settings

This module serves as an introduction to the *Working with Cats in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 1883)

CEU Approval(s)

N/A

Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with cats.

Language Availability

English (ID: 1884)

CEU Approval(s)

N/A

Alternatives Search, Humane Standards, Housing, Source, and Acclimation and Quarantine

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in cats that are likely to cause pain and/or distress. It also presents the best practices for humane standards, housing, sourcing, acclimation, quarantine, and conditioning of cats.

Language Availability

English (ID: 1886)

CEU Approval(s)

N/A

Detecting Pain and Distress, and Biological Features

This module discusses the detection of pain and distress in cats, both physical and behavioral. It also presents the important and notable biological features of cats.

Language Availability

English (ID: 1891)

CEU Approval(s)

N/A

Injections, Blood Collection, and Pain Relief

This module discusses the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in cats. It also presents the dose rates for the common drugs and drug regimens.

Language Availability

English (ID: 1893)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for cats. It also presents the references that were used for the *Working with Cats in Research Settings* course.

Language Availability

English (ID: 1895)

CEU Approval(s)

N/A

Working with Cats in Research Settings – Refresher

This course is a refresher that addresses issues in the use of cats in research.

Module title	Recommended Use
Introduction, Occupational Health, Humane Standards, Housing, Source, and Acclimation and Quarantine	Required
Pain and Distress, Biology, Procedures, Pain Relief	Required
Surgery, Supportive Care, Euthanasia, References	Required

Introduction, Occupational Health, Humane Standards, Housing, Source, and Acclimation and Quarantine

This module provides a review of the requirements of occupational health, humane standards, housing, sourcing, acclimation, and quarantine of cats.

Language Availability

English (ID: 2063)

CEU Approval(s)

N/A

Pain and Distress, Biology, Procedures, Pain Relief

This module provides a review of the detection of pain and distress in cats, both physical and behavioral. It also presents the important and notable biological features of cats, proper procedures, and pain relief techniques.

Language Availability

English (ID: 2069)

CEU Approval(s)

N/A

Surgery, Supportive Care, Euthanasia, References

This module reviews the appropriate surgical techniques, supportive care and monitoring, and euthanasia for cats. It also presents the references that were used for the *Working with Cats in Research Settings - Refresher* course.

Language Availability

English (ID: 2073)

CEU Approval(s)

N/A

Working with Dogs in Research Settings

This course addresses issues in the use of dogs in research.

Module title	Recommended Use
Introduction to Working with Dogs in Research Settings	Required
Research Mandates and Occupational Health Issues	Required
Alternatives Search, Humane Standards, Housing, Source, and Acclimation and Quarantine	Required
Detecting Pain and Distress and Biological Features	Required
Injections, Blood Collection, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Dogs in Research Settings

This module serves as an introduction to the *Working with Dogs in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 1899)

CEU Approval(s)

N/A

Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented while working with dogs.

Language Availability

English (ID: 1900)

CEU Approval(s)

N/A

Alternatives Search, Humane Standards, Housing, Source, and Acclimation and Quarantine

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in dogs that are likely to cause pain and/or distress. It also presents the best practices for humane standards, housing, exercise requirements, sourcing, acclimation, quarantine, and conditioning of dogs.

Language Availability

English (ID: 1902)

CEU Approval(s)

N/A

Detecting Pain and Distress and Biological Features

This module discusses the detection of pain and distress in dogs, both physical and behavioral. It also presents the important and notable biological features of dogs.

Language Availability

English (ID: 1908)

CEU Approval(s)

N/A

Injections, Blood Collection, and Pain Relief

This module discusses the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in dogs. It also presents the dose rates for the common drugs and drug regimens.

Language Availability

English (ID: 1910)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for dogs. It also presents the references that were used for the *Working with Dogs in Research Settings* course.

Language Availability

English (ID: 1912)

CEU Approval(s)

N/A

Working with Ferrets in Research Settings

This course addresses issues in the use of ferrets in research.

Module title	Recommended Use
Welcome to the course Working with Ferrets in Research Settings	Required
Research Mandates and Occupational Health	Required
Alternatives	Required
Humane Standards	Required
Housing	Required
Acclimation and Quarantine	Required
Detecting Pain and Distress	Required
Biological Features	Required
Injections and Blood Collection	Required

Welcome to the course Working with Ferrets in Research Settings

This module serves as an introduction to the *Working with Ferrets in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 12244)

CEU Approval(s)

N/A

Research Mandates and Occupational Health

This module discusses the research mandates and occupational health issues that are presented while working with ferrets.

Language Availability

English (ID: 12413)

CEU Approval(s)

N/A

Alternatives

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in ferrets that are likely to cause pain and/or distress.

Language Availability

English (ID: 12414)

CEU Approval(s)

N/A

Humane Standards

This module discusses the idea that all federal laws, regulations, policies, and guidelines applicable to animal research have as their core intent the humane treatment of the animals involved in a study.

Language Availability

English (ID: 12415)

CEU Approval(s)

N/A

Housing

This module discusses the housing considerations that may affect the welfare of ferrets during a research study.

Language Availability

English (ID: 12416)

CEU Approval(s)

N/A

Acclimation and Quarantine

This module discusses the idea that ferrets should be thoroughly examined then given some time to acclimate to their new surroundings before they are used in research studies.

Language Availability

English (ID: 12417)

CEU Approval(s)

N/A

Detecting Pain and Distress

This module discusses what laboratory staff working with ferrets should be trained on to recognize all indications of pain and distress.

Language Availability

English (ID: 12418)

CEU Approval(s)

N/A

Biological Features

This module presents the important and notable biological features of ferrets. It also discusses the most common preventative medicine and diseases for ferrets.

Language Availability

English (ID: 12419)

CEU Approval(s)

N/A

Injections and Blood Collection

This module discusses the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in ferrets.

Language Availability

English (ID: 12420)

CEU Approval(s)

N/A

Working with Fish in Research Settings

This course addresses issues in the use of fish in research.

Module title	Recommended Use
Introduction, Taxonomy, Research Mandates, and Occupational Health	Required
Alternatives, Humane Standards, Housing, Source, and Acclimation and Quarantine	Required
Biological Features	Required
Recognizing Pain and Distress, Collection, Identification and Routes of Administration	Required
Anesthesia, Analgesia, Surgery, and Postoperative Care	Required
Euthanasia	Required

Introduction, Taxonomy, Research Mandates, and Occupational Health

This module describes the taxonomy and classification of fish. It also covers the federal mandates that regulate the use of fish in research, the use of threatened or endangered species, the need for an occupational health and safety program, and the potential hazards that come with handling fish.

Language Availability

English (ID: 15315)

CEU Approval(s)

N/A

Alternatives, Humane Standards, Housing, Source, and Acclimation and Quarantine

This module states the purpose of the federally mandated 'alternatives search' in an animal protocol as well as the information that should be provided after the 'search' has been conducted. It also details the housing requirements, sources for collecting fish, collection methods, proper handling procedures, and acclimation, quarantine, and conditioning.

Language Availability

English (ID: 15316)

CEU Approval(s)

N/A

Biological Features

This module highlights the biological features of fish that have contributed to their increasing popularity as models in biomedical research.

Language Availability

English (ID: 15317)

CEU Approval(s)

N/A

Recognizing Pain and Distress, Collection, Identification and Routes of Administration

This module describes how to detect pain and distress in fish as well as the procedures that may be used for IV injections or blood withdrawal.

Language Availability

English (ID: 15318)

CEU Approval(s)

N/A

Anesthesia, Analgesia, Surgery, and Postoperative Care

This module covers the types of anesthetic and analgesic agents used in fish and the indications for their use. It also discusses the factors that should be taken into consideration when performing surgery on fish.

Language Availability

English (ID: 15319)

CEU Approval(s)

N/A

Euthanasia

This module presents the acceptable methods of euthanasia in fish and for their disposal.

Language Availability

English (ID: 15320)

CEU Approval(s)

N/A

Working with Gerbils in Research Settings

This course addresses issues in the use of gerbils in research.

Module title	Recommended Use
Introduction to Working with Gerbils in Research Settings	Required
Taxonomy, Research Mandates and Occupational Health Issues	Required
Alternatives Search, Humane Standards, Housing, Acclimation and Quarantine, and Detection of Pain and Distress	Required
Strains, Biology, Injections and Blood Collection, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Gerbils in Research Settings

This module serves as an introduction to the *Working with Gerbils in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 2014)

CEU Approval(s)

N/A

Taxonomy, Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with gerbils.

Language Availability

English (ID: 2015)

CEU Approval(s)

N/A

Alternatives Search, Humane Standards, Housing, Acclimation and Quarantine, and Detection of Pain and Distress

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in gerbils that are likely to cause pain and/or distress. It also presents the best practices for humane standards, housing, sourcing, acclimation, quarantine, and detecting pain and/or distress of gerbils.

Language Availability

English (ID: 2001)

CEU Approval(s)

N/A

Strains, Biology, Injections and Blood Collection, and Pain Relief

This module discusses gerbil strains and species and each important anatomical and physiological feature. It also presents the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in gerbils as well as the dose rates for the common drugs and drug regimens.

Language Availability

English (ID: 2006)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for gerbils. It also presents the references that were used for the *Working with Gerbils in Research Settings* course.

Language Availability

English (ID: 2010)

CEU Approval(s)

N/A

Working with Guinea Pigs in Research Settings

This course addresses issues in the use of guinea pigs in research.

Module title	Recommended Use
Introduction to Working with Guinea Pigs in Research Settings	Required
Taxonomy, Research Mandates and Occupational Health Issues	Required
Alternatives Search, Humane Standards, Acclimation and Quarantine, Housing, and Detection of Pain and Distress	Required
Genetics, Biology, Injections and Blood Collection, Antibody Production, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Guinea Pigs in Research Settings

This module serves as an introduction to the *Working with Guinea Pigs in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 1951)

CEU Approval(s)

N/A

Taxonomy, Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with guinea pigs.

Language Availability

English (ID: 1952)

CEU Approval(s)

N/A

Alternatives Search, Humane Standards, Acclimation and Quarantine, Housing, and Detection of Pain and Distress

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in guinea pigs that are likely to cause pain and/or distress. It also presents the best practices for humane standards, housing, acclimation, quarantine, and detecting pain and/or distress of guinea pigs.

Language Availability

English (ID: 1954)

CEU Approval(s)

N/A

Genetics, Biology, Injections and Blood Collection, Antibody Production, and Pain Relief

This module discusses guinea pig strains and species, and each important biological feature that they possess. It also presents the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in gerbils as well as the dose rates for the common drugs and drug regimens.

Language Availability

English (ID: 1959)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for guinea pigs. It also presents the references that were used for the *Working with Guinea Pigs in Research Settings* course.

Language Availability

English (ID: 1964)

CEU Approval(s)

N/A

Working with Hamsters in Research Settings

This course addresses issues in the use of hamsters in research.

Module title	Recommended Use
Introduction to Working with Hamsters in Research Settings	Required
Research Mandates and Occupational Health Issues	Required
Alternatives Search, Humane Standards, Housing, Acclimation and Quarantine, Detecting Pain and Distress	Required
Species/Strains	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Hamsters in Research Settings

This module serves as an introduction to the *Working with Hamsters in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 1984)

CEU Approval(s)

N/A

Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with hamsters.

Language Availability

English (ID: 1985)

CEU Approval(s)

N/A

Alternatives Search, Humane Standards, Housing, Acclimation and Quarantine, Detecting Pain and Distress

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in hamsters that are likely to cause pain and/or distress. It also presents the best practices for humane standards, housing, acclimation, quarantine, and detecting pain and/or distress of hamsters.

Language Availability

English (ID: 1987)

CEU Approval(s)

N/A

Species/Strains

This module discusses hamster strains and species, and each important biological feature that they possess. It also presents the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in hamsters as well as the dose rates for the common drugs and drug regimens.

Language Availability

English (ID: 1992)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for hamsters. It also presents the references that were used for the *Working with Hamsters in Research Settings* course.

Language Availability

English (ID: 1996)

CEU Approval(s)

N/A

Working with Mice in Research Settings

This course addresses issues in the use of mice in research.

Module title	Recommended Use
Introduction to Working with Mice in Research Settings	Required
Research Mandates and Occupational Health Issues	Required
Alternatives Searches, Humane Standards, Housing, and Acclimation and Quarantine	Required
Detecting Pain and Distress, Genetics, and Biological Features	Required
Injections, Blood Collection, and Antibody Production	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Mice in Research Settings

This module serves as an introduction to the *Working with Mice in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 1933)

CEU Approval(s)

N/A

Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with mice. It also reviews occupational health plans for individuals working with laboratory animals.

Language Availability

English (ID: 1934)

CEU Approval(s)

N/A

Alternatives Searches, Humane Standards, Housing, and Acclimation and Quarantine

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in mice that are likely to cause pain and/or distress. It also presents the best practices for humane standards, housing, acclimation, and quarantine.

Language Availability

English (ID: 1936)

CEU Approval(s)

N/A

Detecting Pain and Distress, Genetics, and Biological Features

This module discusses the detection of pain and distress in mice during research testing. It also presents mice strains and species, and each important biological feature that they possess.

Language Availability

English (ID: 1940)

CEU Approval(s)

N/A

Injections, Blood Collection, and Antibody Production

This module presents the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in mice as well as the dose rates for the common drugs and drug regimens. It also discusses antibody production for research testing.

Language Availability

English (ID: 1943)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for mice. It also presents the references that were used for the *Working with Mice in Research Settings* course.

Language Availability

English (ID: 1946)

CEU Approval(s)

N/A

Working with Non-Human Primates in Research Settings

This course addresses issues in the use of non-human primates in research.

Module title	Recommended Use
Introduction to Working With Non-Human Primates in Research Settings	Required
Research Mandates and Occupational Health Issues	Required
Alternatives Search, Humane Standards, Housing, Source, and Acclimation and Quarantine	Required
Detecting Pain and Distress, and Biological Features	Required
Injections, Blood Collection, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working With Non-Human Primates in Research Settings

This module serves as an introduction to the *Working with Non-Human Primates in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 2032)

CEU Approval(s)

N/A

Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with non-human primates.

Language Availability

English (ID: 2033)

CEU Approval(s)

N/A

Alternatives Search, Humane Standards, Housing, Source, and Acclimation and Quarantine

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in non-human primates that are likely to cause pain and/or distress. It also presents the best practices for the source of non-human primates, acclimation, quarantine, and conditioning.

Language Availability

English (ID: 2035)

CEU Approval(s)

N/A

Detecting Pain and Distress, and Biological Features

This module discusses the detection of pain and distress in non-human primates during research testing. It also presents the important biological features that non-human primates possess.

Language Availability

English (ID: 2040)

CEU Approval(s)

N/A

Injections, Blood Collection, and Pain Relief

This module discusses the proper techniques for handling, collecting blood samples, and providing pain relief to non-human primates.

Language Availability

English (ID: 2042)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for non-human primates. It also presents the references that were used for the *Working with Non-Human Primates in Research Settings* course.

Language Availability

English (ID: 2044)

CEU Approval(s)

N/A

Working with Rabbits in Research Settings

This course addresses issues in the use of rabbits in research.

Module title	Recommended Use
Introduction to Working with Rabbits in Research Settings	Required
Research Mandates and Occupational Health Issues	Required
Alternatives Searches, Humane Standards, Housing, and Acclimation and Quarantine	Required
Detecting Pain and Distress, Genetics, and Biological Features	Required
Injections, Blood Collection, Antibody Production, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Rabbits in Research Settings

This module serves as an introduction to the *Working with Rabbits in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 1968)

CEU Approval(s)

N/A

Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with rabbits.

Language Availability

English (ID: 1969)

CEU Approval(s)

N/A

Alternatives Searches, Humane Standards, Housing, and Acclimation and Quarantine

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in rabbits that are likely to cause pain and/or distress. It also presents the best practices for the humane treatment of rabbits as well as allowing them to acclimate with their environment.

Language Availability

English (ID: 1971)

CEU Approval(s)

N/A

Detecting Pain and Distress, Genetics, and Biological Features

This module discusses the detection of pain and distress in rabbits during research testing. It also presents the important biological features that rabbits possess.

Language Availability

English (ID: 1975)

CEU Approval(s)

N/A

Injections, Blood Collection, Antibody Production, and Pain Relief

This module presents the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in rabbits as well as the dose rates for the common drugs and drug regimens. It also discusses antibody production for research testing.

Language Availability

English (ID: 1977)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for rabbits. It also presents the references that were used for the *Working with Rabbits in Research Settings* course.

Language Availability

English (ID: 1980)

CEU Approval(s)

N/A

Working with Rats in Research Settings

This course addresses issues in the use of rats in research.

Module title	Recommended Use
Introduction to Working with Rats in Research Settings	Required
Research Mandates and Occupational Health Issues	Required
Alternatives Searches, Humane Standards, Housing, and Acclimation and Quarantine	Required
Detecting Pain and Distress, Genetics, and Biological Features	Required
Injections, Blood Collection, Antibody Production, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and Reference	Required

Introduction to Working with Rats in Research Settings

This module serves as an introduction to the *Working with Rats in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 1916)

CEU Approval(s)

N/A

Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with rats.

Language Availability

English (ID: 1917)

CEU Approval(s)

N/A

Alternatives Searches, Humane Standards, Housing, and Acclimation and Quarantine

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in rats that are likely to cause pain and/or distress. It also presents the best practices for the humane treatment of rats as well as providing them with appropriate housing and allowing them to acclimate to their environment.

Language Availability

English (ID: 1919)

CEU Approval(s)

N/A

Detecting Pain and Distress, Genetics, and Biological Features

This module discusses the detection of pain and distress in rats during research testing. It also presents rat strains and species, and each important biological feature that they possess.

Language Availability

English (ID: 1923)

CEU Approval(s)

N/A

Injections, Blood Collection, Antibody Production, and Pain Relief

This module presents the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in rats as well as the dose rates for the common drugs and drug regimens. It also discusses antibody production for research testing.

Language Availability

English (ID: 1926)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and Reference

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for rats. It also presents the references that were used for the *Working with Rats in Research Settings* course.

Language Availability

English (ID: 1929)

CEU Approval(s)

N/A

Working with Swine in Research Settings

This course addresses issues in the use of swine in research.

Module title	Recommended Use
Introduction to Working with Swine in Research Settings	Required
Research Mandates and Occupational Health Issues	Required
Alternatives Search, Humane Standards, Housing, Source, and Acclimation and Quarantine	Required
Detecting Pain and Distress, and Biological Features	Required
Injections, Blood Collection, and Pain Relief	Required
Surgery, Supportive Care and Monitoring, Euthanasia, and References	Required

Introduction to Working with Swine in Research Settings

This module serves as an introduction to the *Working with Swine in Research Settings* course. It discusses the goal and objectives that this course seeks to achieve.

Language Availability

English (ID: 2016)

CEU Approval(s)

N/A

Research Mandates and Occupational Health Issues

This module discusses the research mandates and occupational health issues that are presented when working with swine.

Language Availability

English (ID: 2017)

CEU Approval(s)

N/A

Alternatives Search, Humane Standards, Housing, Source, and Acclimation and Quarantine

This module discusses the requirements for investigators to provide written assurance that alternatives are not available for proposed procedures in swine that are likely to cause pain and/or distress. It also presents the best practices for humane treatment, housing, sourcing, acclimation, quarantine, and conditioning.

Language Availability

English (ID: 2019)

CEU Approval(s)

N/A

Detecting Pain and Distress, and Biological Features

This module discusses the detection of pain and distress in swine during research testing. It each important biological feature that swine possess.

Language Availability

English (ID: 2024)

CEU Approval(s)

N/A

Injections, Blood Collection, and Pain Relief

This module presents the volume recommendations and proper procedure for acute intravenous fluid administration and blood collection in swine as well as the dose rates for the common drugs and drug regimens.

Language Availability

English (ID: 2026)

CEU Approval(s)

N/A

Surgery, Supportive Care and Monitoring, Euthanasia, and References

This module discusses the appropriate surgical techniques, supportive care and monitoring, and euthanasia for swine. It also presents the references that were used for the *Working with Swine in Research Settings* course.

Language Availability

English (ID: 2028)

CEU Approval(s)

N/A