Continuing Education
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SCI-934: Zoology: Understanding the Animal World (Great Courses Series)

Independent Study Online Course Syllabus

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Number of Graduate Semester Units: 3 units

Target Audience: 6th - 14th grade teachers

Course Access: ce-connect.fresno.edu

Course Description

In this course, The Great Courses teams up with the Smithsonian, the acknowledged leader in animal research, conservation, and education, to bring you these visually rich video lectures that take you behind the scenes of not only the animal world but of the scientists trying to understand how it works. This course offers a wonderful introduction to the fundamentals of zoology through the eyes of a trained zoologist, bringing you up close and personal with a breathtaking variety of animal species: crocodiles, birds of prey, lions, dolphins, giant pandas, elephants, and more. Packed with exclusive footage from zoos, research parks, and animals in their natural habitats, as well as interviews with other Smithsonian scientists, these video lectures will reveal the hidden world of animals in a way no other course could ever hope to do.

Learn What Zoologists Do

Modern zoological research is discovering subtle but important differences between species that aren't necessarily apparent to the naked eye. While most of the time, the public sees a zoo as an entertaining and educational way to spend an afternoon, your average zoo is also a vital part of research and conservation activities going on across the world. To make this scientific field a little more manageable to grasp, and to guide your learning in a way that builds upon insights, we have organized this course into three general sections.

- **Start with the basics of zoology.** Topics include the intriguing relationship between genetics and environment, sexual behaviors in different animal groups, parenting styles and their evolutionary importance, and the role conservation plays in our current research into the animal kingdom.
- **Explore the different orders of life on our planet.** It's a colorful tour that takes you from the ocean depths to the highest treetops and reveals the characteristics of different animal orders (invertebrates, amphibians, reptiles, fish, mammals) as well as the astounding diversity within them.

- **Investigate special subjects intriguing today's zoologists.** How do animals interact with their environments and with one another (including human beings)? How do we study animal intelligence, and can animals think? What diseases threaten animals in the wild and in zoos? How can we ensure the survival of endangered species?

Meet Incredible Animals

Of course, the most fascinating part of zoology are the animals themselves. Each module features some of the most incredible animals on Earth. And thanks to the special footage from the Smithsonian's National Zoo and others, you'll be able to see these and other animals in action—without the crowds. Not only this, but you will see exclusive behind-the-scenes footage only available in this course, including a sneak peek at a baby giant panda filmed months before the first public viewing. You'll also learn a host of other interesting facts about what zoologists now know about animal life. In fact, you may be surprised to discover some things you thought you knew are mostly myths. It's a wide, wild world out there. And with this engaging and informative course, you'll be better equipped to get out there and discover the wonders that live in it, whether they're in your local zoo, aquarium, national park, or right in your own backyard. Assignments address the National Board for Professional Teaching Standards (NBPTS) for Science.

Note: Course guidebook is included with the cost of the course.

Content Disclaimer

The views expressed in some of the lectures and materials used in this course do not necessarily align with the theological views of Fresno Pacific University. As a faith-based institution we believe in the literal interpretation of the Bible. However, we also recognize that evolution is a scientific theory that is supported by scientific evidence. We believe that it is important for our students to be exposed to a variety of viewpoints on this topic, so that they can make personal decisions about their own beliefs.

Required Texts and Course Materials

Course Guidebook: Moore, D. E. (2017). Zoology: Understanding the Animal World. The Teaching Company.

Online Resources: Relevant online resources that support the course content and encourage further investigation will be available throughout the course assignments. Active hyperlinks are utilized throughout the course and will link to the appropriate information when clicked. These include videos, podcasts, worksheets, online activities, journal articles and other resources.

Moodle: Moodle is a web-based learning management system used to support flexible teaching and learning in both face-to-face and distance courses (e-learning).
https://moodle.org // https://moodle.org/demo // https://docs.moodle.org

Course Dates

Self-paced; students may enroll at any time and take up to one year, from the date of registration, to complete assignments. Students may complete assignments in no less than three weeks for a 3-unit course (one week per unit).

National Standards Addressed in This Course

National Board for Professional Teaching Standards (NBPTS)
(http://www.nbpts.org/standards-five-core-propositions/)

First published in 1989 and updated in 2016, *What Teachers Should Know and Be Able to Do* articulates the National Board's Five Core Propositions for teaching. The Five Core Propositions - comparable to medicine's Hippocratic Oath — set forth the profession's vision for accomplished teaching. Together, the propositions form the basis of all National Board Standards and the foundation for National Board Certification. Course assignments have been designed so students can demonstrate excellence against these professional teaching standards whenever possible.

- Proposition 1: Teachers are committed to students and their learning
- Proposition 2: Teachers know the subject they teach and how to teach those subjects to students
- Proposition 3: Teachers are responsible for managing and monitoring student learning
- Proposition 4: Teachers think systematically about their practice and learn from experience
- Proposition 5: Teachers are members of learning communities

NBPTS Science Standards (SS-HS)
(https://www.nbpts.org/wp-content/uploads/2021/09/EAYA-SCIENCE.pdf)

The National Board for Professional Teaching Standards (NBPTS) has organized the standards for accomplished teachers of science subjects into the following nine standards. The standards have been ordered to facilitate understanding, not to assign priorities. They each describe an important facet of accomplished teaching; they often occur concurrently because of the seamless quality of accomplished practice. These standards serve as the basis for National Board Certification in science.

NBPTS Science Standards

- **Standard I**: Understanding Students: Accomplished science teachers continuously seek to understand their students, and they use this knowledge to enhance student learning.
- **Standard II**: Knowledge of Science: Accomplished science teachers have comprehensive understandings of the nature of science, inquiry, and natural phenomena.
- **Standard III**: Curriculum and Instruction: Accomplished science teachers thoughtfully and deliberately implement a standards-based curriculum using a variety of high-quality instructional strategies and resources to enhance student learning.
- **Standard IV**: Assessment: Accomplished science teachers purposefully assess their students in order to set learning goals, differentiate instruction, and encourage student learning.
- **Standard V**: Learning Environment: Accomplished science teachers create and maintain a safe and engaging learning environment to promote and support science learning for all students.
- **Standard VI**: Family and Community Partnerships: Accomplished science teachers establish productive interactions and successful partnerships with families and communities to enhance student learning.
- **Standard VII**: Advancing Professionalism: Accomplished science teachers advance their professionalism by pursuing leadership roles, collaborating with colleagues, and undertaking high-quality professional learning opportunities.

- **Standard VIII**: Diversity, Fairness, Equity and Ethics: Accomplished science teachers understand and value diversity, and they engage all students in high-quality science learning through fair, equitable, and ethical teaching practices.
- **Standard IX**: Reflection: Accomplished science teachers continually reflect on their teaching practice in order to maximize their own professional growth and improve the quality of their students' learning experiences

Common Core State Standards (CCSS) (www.corestandards.org)

The Common Core State Standards provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy.

Continuing Education Student Learning Outcomes (CE-SLO)

CE-SLO 1	Demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others, and present information applicable to targeted use.
CE-SLO 2	Demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
CE-SLO 3	Reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and professional improvement.
CE-SLO 4	Apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to the professional setting.
CE-SLO 5	Reflect on values that inspire high standards of professional and ethical behavior as they pursue excellence in applying new learning to their chosen field.
CE-SLO 6	Identify information needed in order to fully understand a topic or task, organize that information, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information.

Course Student Learning Outcomes (C-SLO)

Student Learning Outcomes for This Course By the end of this course student will be able to:		**National Standards Addressed***	**CE-SLO Addressed****
C-SLO 1	Describe the role of zoologists in studying animal intelligence, ecology, behavior, and conservation.	Science Standards II, III, IV	CE 1, 2, 6
C-SLO 2	Explain the importance of genetics and the environment in shaping animal characteristics and behaviors.	Science Standards II, III, IV	CE 1, 2, 3

C-SLO 3	Explore the diversity of sexual behaviors in different animal groups and their evolutionary significance.	Science Standards II, III, IV	CE 1, 2, 6
C-SLO 4	Identify and classify various animal orders, including invertebrates, amphibians, reptiles, fish, and mammals.	Science Standards II, III, IV	CE 1, 2, 4, 6
C-SLO 5	Examine the characteristics and adaptations of animals within each order, showcasing their diversity.	Science Standards II, III, IV	CE 1, 2, 6
C-SLO 6	Explore how animals interact with their environments and with other species, including humans.	Science Standards II, III, IV	CE 2, 4, 5
C-SLO 7	Discuss the challenges and approaches involved in ensuring the survival of endangered species.	Science Standards II, III, IV	CE 1, 2, 5
C-SLO 8	Examine the ecological importance of coral reefs and their rich biodiversity.	Science Standards II, III, IV	CE 1, 2, 5
C-SLO 9	Challenge common misconceptions about animal behaviors and characteristics, such as bird nests and milk composition.	Science Standards II, III, IV	CE 1, 3, 4

* Please refer to the section on **National Standards Addressed in This Course**
** Please refer to the section on **Continuing Education Student Learning Outcomes**

Topics, Assignments, and Activities

The participant's grade will be determined by the number and quality of modules they choose to complete. Outlined below are the module requirements for each type of unit and grade options.

If working towards the "A letter grade" option:

- Eight modules - Complete all 8 content modules.
- Complete the Knowledge Check OR Reflective Forum per module.
- Complete one (1) of the Applied Assignments per module.
- All coursework with must receive "A-grade" quality or better.

If working towards the "B letter grade" option:

- Six modules - Complete 6 of the 8 content modules (any 6 of your choice).
- Complete the Knowledge Check OR Reflective Forum per module.
- Complete one (1) of the Applied Assignments per module.
- All coursework with must receive "B-grade" quality or better.

Module Title	Module Assignments and Activities	Points Possible
Welcome Module	• Welcome Video • Course Syllabus • Introduce Yourself Forum	
Module 1 – Introduction & Reproduction	• Watch Videos 1, 2, 3 • Read Guidebook Lectures 1, 2, 3 • Introduction & Reproduction • 1.2 Reflective Forum: Introduction & Reproduction • 1.3 Application: Presentation, Lesson Plan, or Choice	10 pts 15 pts 30 pts

Module 2 – Parenting & Invertebrates	• Watch Videos 4, 5, 6 • Read Guidebook Lectures 4, 5, 6 • 2.1 Knowledge Check: Parenting & Invertebrates • 2.2 Reflective Forum: Parenting & Invertebrates • 2.3 Application: Presentation, Lesson Plan, or Choice	10 pts 15 pts 30 pts
Module 3 – Parasites, Fish, & Amphibians	• Watch Videos 7, 8, 9 • Read Guidebook Lectures 7, 8, 9 • 3.1 Knowledge Check: Parasites, Fish, & Amphibians • 3.2 Reflective Forum: Parasites, Fish, & Amphibians • 3.3 Application: Presentation, Lesson Plan, or Choice	10 pts 15 pts 30 pts
Module 4 – Reptiles & Birds	• Watch Videos 10, 11, 12 • Read Guidebook Lectures 10, 11, 12 • 4.1 Knowledge Check: Reptiles & Birds • 4.2 Reflective Forum: Reptiles & Birds • 4.3 Application: Presentation, Lesson Plan, or Choice	10 pts 15 pts 30 pts
Module 5 – Migration & Mammals	• Watch Videos 13, 14, 15 • Read Guidebook Lectures 13, 14, 15 • 5.1 Knowledge Check: Migration & Mammals • 5.2 Reflective Forum: Migration & Mammals • 5.3 Application: Presentation, Lesson Plan, or Choice	10 pts 15 pts 30 pts
Module 6 – Carnivores, Primates, & Metabolism	• Watch Videos 16, 17, 18 • Read Guidebook Lectures 16, 17, 18 • 6.1 Knowledge Check: Carnivores, Primates, & Metabolism • 6.2 Reflective Forum: Carnivores, Primates, & Metabolism • 6.3 Application: Presentation, Lesson Plan, or Choice	10 pts 15 pts 30 pts
Module 7 – Adaptations, Energy Flow, & Behavior	• Watch Videos 19, 20, 21 • Read Guidebook Lectures 19, 20, 21 • 7.1 Knowledge Check: Adaptations, Energy Flow, & Behavior • 7.2 Reflective Forum: Adaptations, Energy Flow, & Behavior • 7.3 Application: Presentation, Lesson Plan, or Choice	10 pts 15 pts 30 pts
Module 8 – Intelligence, Disease, & Future	• Watch Videos 22, 23, 24 • Read Guidebook Lectures 22, 23, 24 • 8.1 Knowledge Check: Intelligence, Disease, & Future • 8.2 Reflective Forum: Intelligence, Disease, & Future • 8.3 Application: Presentation, Lesson Plan, or Choice	10 pts 15 pts 30 pts
Course Wrap-up – Grading and Evaluation	• Final Reflection Forum • Course Evaluation • Course Completion Checklist • Grade Request / Transcript Request	
	TOTAL POINTS	**440 points**

Grading Policies, Rubrics, and Requirements for Assignments

Grading Policies

- Assignments will be graded per criteria presented in the course rubrics.
- A = 90-100% and B = 80-89%, (anything below 80% will not receive credit.)
- The discernment between an A or a B letter grade is at the discretion of the instructor based on the quality of work submitted (see course rubrics).
- Coursework falling below a B grade will be returned with further instructions.

- All assignments must be completed to receive a grade and are expected to reflect the quality that teacher-training institutions require of professional educators. If completed assignments do not meet this standard, students will be notified with further instructions from the instructor.

Grading Rubrics

Grade	Percent	Description	Rubric
A	90-100%	Excellent	Meets all course / assignment requirements with significant evidence of subject mastery and demonstration of excellent graduate level professional development scholarship.
B	80-89%	Very Good	Adequately meets criteria for all course/assignment requirements - demonstrates subject competency with very good graduate level professional development scholarship.
NC	Below 80%	Unacceptable	Does not meet the minimum criteria for all course/assignment requirements and demonstrated little, if any, evidence of acceptable graduate level professional development scholarship.

Writing Requirements

- **Superior:** Writing is clear, succinct, and reflects graduate level expectations. Clearly addresses all parts of the writing task. Maintains a consistent point of view and organizational structure. Includes relevant facts, details, and explanations.
- **Standard:** Writing is acceptable with very few mistakes in grammar and spelling. Addresses most parts of the writing task. Maintains a mostly consistent point of view and organizational structure. Includes mostly relevant facts, details, and explanations.
- **Sub-standard:** Writing contains noticeable mistakes in grammar and spelling. Does not address all parts of the writing task. Lacks a consistent point of view and organizational structure. May include marginally relevant facts, details, and explanations.

Lesson Plan Requirements

- **Superior:** Instructional goals and objectives clearly stated. Instructional strategies appropriate for learning outcome(s). Method for assessing student learning and evaluating instruction is clearly delineated and authentic. All materials necessary for student and teacher to complete lesson clearly listed.
- **Standard:** Instructional goals and objectives are stated but are not easy to understand. Some instructional strategies are appropriate for learning outcome(s). Method for assessing student learning and evaluating instruction is present. Most materials necessary for student and teacher to complete lesson are listed.
- **Sub-standard:** Instructional goals and objectives are not stated. Learners cannot tell what is expected of them. Instructional strategies are missing or strategies used are inappropriate. Method for assessing student learning and evaluating instruction is missing. Materials necessary for student and teacher to complete lesson are missing.

Instructor/Student Contact Information

Throughout the course participants will be communicating with the instructor and their classmates on a regular basis using asynchronous posting forums. Students are provided with instructor contact information in the event they want to make email or phone contact. In addition, students are encouraged to email or phone the instructor at any time. Students will also receive feedback on the required assignments as they are submitted.

Forums

Participation is an important expectation of this course and all online courses. Online forums promote reflection and analysis while allowing students to appreciate and evaluate positions that others express. Forum postings are open to be viewed by all students in the course, so do not post sensitive or personal information about your students. While students may not be engaging with the same students throughout this course, they will be expected to offer comments, questions, and replies to the forum questions whenever possible. The faculty role in the forums is that of an observer and facilitator.

Coursework Hours

Based on the Carnegie Unit standard, a unit of graduate credit measures academic credit based on the number of hours the student is engaged in learning. This includes all time spent on the course: reading the textbook, watching videos, listening to audio lessons, researching topics, writing papers, creating projects, developing lesson plans, posting to discussion boards, etc. Coursework offered for FPU Continuing Education graduate credit adheres to 45 hours per semester unit for the 900-level courses. Therefore, a student will spend approximately 135 hours on a typical 3-unit course.

Services for Students with Disabilities

Students with disabilities are eligible for reasonable accommodations in their academic work in all classes. In order to receive assistance, the student with a disability must provide the Academic Support Center with documentation, which describes the specific disability. The documentation must be from a qualified professional in the area of the disability (i.e. psychologist, physician or educational diagnostician). Students with disabilities should contact the Academic Support Center to discuss academic and other needs as soon as they are diagnosed with a disability. Once documentation is on file, arrangements for reasonable accommodations can be made. For more information and for downloadable forms, please go to https://www.fresno.edu/students/academic-support/services-students-disabilities.

Plagiarism and Academic Honesty

All people participating in the educational process at Fresno Pacific University are expected to pursue honesty and integrity in all aspects of their academic work. Academic dishonesty, including plagiarism, will be handled per the procedures set forth in the Fresno Pacific University Catalogue and Handbook - https://handbook.fresno.edu/graduate/academic-policies

Technology Requirements

To successfully complete the course requirements, course participants will need Internet access, can send and receive email, know how to manage simple files in a word processing program, and have a basic understanding of the Internet. Please remember that the instructor is not able to offer technical support. If you need technical support, please contact your Internet Service Provider.

Moodle: This course will be delivered totally online at https://ce-connect.fresno.edu. Moodle is a learning management system that provides students access to online resources, documents, assignments, knowledge checks, forums, etc. Moodle is easy to learn and has a friendly user interface. There are also some student tutorials on the Center for Online Learning website at Fresno Pacific University - https://col.fresno.edu/student.

Moodle Login and Passwords: Students will need to have internet access to log onto https://ce-connect.fresno.edu. The username and password for Moodle access will be sent to you by the university using the email address you submitted at the time of registration. The instructor will then contact you with a welcome communication. If you need help with your username and password recovery, please contact the Continuing Education office at (800) 372-5505 or (559) 453-2000 during regular office hours - Mon-Fri 8:00 am to 5:00 pm (pacific) or email them at prof.dev@fresno.edu.

Getting Help with Moodle: If you need help with Moodle, please contact the Center for Online Learning (COL), by telephone or the website. Help by phone (559) 453-3460 is available Mon-Fri 8:00 am to 5:00 pm (pacific) or by filling out a "Request Services" form at https://col.fresno.edu/contact/request-services. If asked, please identify that you are with the "School = Continuing Education".

Final Course Grade and Transcripts

When all work for the course has been completed, students will need to logon to the Continuing Education website (https://ce.fresno.edu/my-account) and "Request Final Grade". Once the instructor receives the requests and submits the grade online, students may log back in to view their Final Grade Report or order transcripts online. Please allow at least two weeks for the final grade to be posted. For more information, see the Continuing Education Policies and Procedures at https://ce.fresno.edu/ce-policies-and-procedures.

University Policies and Procedures

Students are responsible for becoming familiar with the information presented in the Academic Catalog and for knowing and observing all policies and procedures related to their participation in the university community. A summary of university policies may be found on the university website at https://www.fresno.edu/students/registrars-office/academic-catalogs.

Fresno Pacific University Student Learning Outcomes (FPU-SLO)

FPU-SLO 1	**Student Learning Outcomes Oral Communication:** Students will *exhibit* clear, engaging, and confident oral communication – in both individual and group settings – and will critically *evaluate* content and delivery components.
FPU-SLO 2	**Written Communication:** Students will *demonstrate* proficient written communication by *articulating* a clear focus, *synthesizing* arguments, and utilizing standard formats in order to *inform* and *persuade* others.
FPU-SLO 3	**Content Knowledge:** Students will *demonstrate* comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
FPU-SLO 4	**Reflection**: Students will *reflect* on their personal and professional growth and *provide evidence* of how such reflection is utilized to manage personal and vocational improvement.
FPU-SLO 5	**Critical Thinking:** Students will *apply* critical thinking competencies by *generating* probing questions, *recognizing* underlying assumptions, *interpreting* and *evaluating* relevant information, and *applying* their understandings to new situations.
FPU-SLO 6	**Moral Reasoning:** Students will *identify* and *apply* moral reasoning and ethical decision-making skills, and *articulate* the norms and principles underlying a Christian worldview.

FPU-SLO 7	**Service**: Students will *demonstrate* service and reconciliation as a way of leadership.
FPU-SLO 8	**Cultural and Global Perspective:** Students will *identify* personal, cultural, and global perspectives and will employ these perspectives to *evaluate* complex systems.
FPU-SLO 9	**Quantitative Reasoning**: Students will accurately *compute* calculations and symbolic operations and *explain* their use in a field of study.
FPU-SLO 10	**Information Literacy:** Students will *identify* information needed in order to fully understand a topic or task, *explain* how that information is organized, *identify* the best sources of information for a given enquiry, *locate* and critically *evaluate* sources, and accurately and effectively *share* that information.