DOES NOT MEET GRADUATION REQUIREMENT ELECTIVES—HIGH SCHOOL

Animal Behavior	**Semester—Grades 10–12** **Prerequisites: Biology AB is recommended. All students in Grades 9-11 must have concurrent enrollment in a science course that is assessed by the California State Contents Standards Test to participate in this science elective.**
Course Code Number and Abbreviation	**36-08-07 Animal Behavior**
Course Description	The major purpose of this course is to provide a phylogenetic study of the levels of animal behavior through laboratory and field observations. Mammalian behavior patterns such as courtship, play, and aggression will be studied using various observational techniques. **Animal Behavior meets one semester of the University of California *'g'* requirement for an elective science class. It does not meet the District graduation requirements.**
Instructional Units and Pacing Plans	**Instructional Unit** — ***Suggested Weeks** Methodology: 3 / 3 Levels of Behaviors: 5 / 6 Social Patterns: 8 / 10 **Total: 16 year-round / 19 traditional** * Suggested weeks are to be used as an estimate only Pacing will depend on how State Content Standards and the Literacy and Mathematics Initiatives are embedded.
California Language Arts Content Standards	The following standard from *English-Language Arts Content Standards for California Public Schools* will be measured on State assessments: • Use clear research questions and suitable research methods (e.g., library, electronic media, personal interview) to elicit and present evidence from primary and secondary sources. 9/10 standard

Investigation and Experimentation	*In accordance with their individual capacity, students will grow in the ability to:* • Demonstrate process skills of scientific thinking: observing, communicating, comparing, ordering, categorizing, relating, inferring, and applying. • Demonstrate skills in the area of speaking, listening, writing, reading, graphing, mapping and mathematics. • Evaluate the contributions of science and technology and their relevance to improving our daily lives in preparation for the future. • Establish the relevance of science and its applications to careers and real-life situations. • Describe the various levels of behavior and the phyla in which these behaviors commonly occur. • Describe the concepts of conditioning, tropisms, and stimulus and response. • Explain how to recognize and describe different social behaviors such as imprinting, aggression, dominance, courtship, socialization, territoriality, migration and circadian rhythm. • Explain how to identify individuals within a social group, and describe how to create an ethogram. • Interpret data from both long- and short- term laboratory investigations and make appropriate conclusions. • Select and use appropriate tools and technology (such as computer-linked probes, spreadsheets, and graphing calculators) to perform tests, collect data, analyze relationships, and display data.* • Identify and communicate sources of unavoidable experimental error.* • Identify possible reasons for inconsistent results, such as sources of error or uncontrolled conditions.* • Formulate explanations by using logic and evidence.* • Solve scientific problems by using quadratic equations and simple trigonometric, exponential, and logarithmic functions.*

	•Distinguish between hypothesis and theory as scientific terms.* •Recognize the usefulness and limitations of models and theories as scientific representations of reality.* • Analyze the locations, sequences, or time intervals that are characteristic of natural phenomena (e.g., relative ages of rocks, locations of planets over time, chemical reaction rates, and succession of species in an ecosystem).* • Recognize the issues of statistical variability and the need for controlled tests.* • Recognize the cumulative nature of scientific evidence.* • Analyze situations and solve problems that require combining and applying concepts from more than one area of science.* • Investigate a science-based societal issue by researching the literature, analyzing data, and communicating the findings. Examples of issues include irradiation of food, cloning of animals by somatic cell nuclear transfer, choice of energy sources, and land and water use decisions in California.* • Know that when an observation does not agree with an accepted scientific theory, the observation is sometimes mistaken or fraudulent (e.g., the Piltdown Man fossil or unidentified flying objects) and that the theory is sometimes wrong (e.g., the Ptolemaic model of the movement of the Sun, Moon, and planets).* • Investigate a societal issue by researching literature, analyzing data and communicating findings and discuss possible future outcomes. • Demonstrate interconnections between the many disciplines of science. • Demonstrate the interdisciplinary connections between science and other curricular fields. **Note:** *Asterisked items are Science Investigation and Experimentation Standards for the State of California.*

DOES NOT MEET GRADUATION REQUIREMENT
ELECTIVES—HIGH SCHOOL

Animal Behavior	**Semester—Grades 11–12** **Prerequisites: Biology AB is recommended**
Course Code Number and Abbreviation	***Suggested* 36-08-08 Animal Behavior B** **second semester course**
Course Description	The major purpose of this course is to provide a phylogenetic study of the levels of animal behavior through laboratory and field observations. Mammalian behavior patterns such as courtship, play, and aggression will be studied using various observational techniques. **Animal Behavior meets one semester of the University of California 'g' requirement for an elective science class.**
Instructional Units and Pacing Plans	***Instructional Units***

	*Suggested	Weeks
Evolution of Primate Behavior	2	2
Migratory Behaviors	2	2
Abnormal Behavior & Stereotypy	2	3
Aggression & Hierarchy	2	3
Social Patterns	1	1
Behavior & Hormones	1	1
Conservation & Research	3	3
Operant Conditioning & Training	3	4
Total	***16**	***19**
	year-round	**traditional**

* Suggested weeks are to be used as an estimate only Pacing will depend on how State Content Standards and the Literacy and Mathematics Initiatives are embedded.

California Language Arts Content Standards	The following standard from *English-Language Arts Content Standards for California Public Schools* will be measured on State assessments: • Use clear research questions and suitable research methods (e.g., library, electronic media, personal interview) to elicit and present evidence from primary and secondary sources.

Representative Objectives	*In accordance with their individual capacity, students will grow in the ability to:*
	• Demonstrate process skills of scientific thinking: observing, communicating, comparing, ordering, categorizing, relating, inferring, and applying.
	• Demonstrate skills in the area of speaking, listening, writing, reading graphing, mapping and mathematics.
	• Evaluate the contributions of science and technology and their relevance to improving our daily lives in preparation for the future.
	• Establish the relevance of science and its applications to careers and real-life situations.
	• Select and use appropriate tools and technology (such as computer-linked probes, spreadsheets, and graphing calculators to perform tests, collect data, analyze relationships, and display data.*
	• Identify and communicate sources of unavoidable experimental error
	• Identify possible reasons for inconsistent results, such as sources of error or uncontrolled conditions.*
	• Formulate explanations by using logic and evidence.*
	• Solve scientific problems by using quadratic equations and simple trigonometric, exponential, and logarithmic functions.*
	•Distinguish between hypothesis and theory in scientific terms.
	•Recognize the usefulness and limitations of models and theories as scientific representations of reality.*
	• Analyze the locations, sequences, or time intervals that are characteristic of natural phenomena (e.g., relative ages of rocks, locations of planets over time, chemical reaction rates, and succession of species in an ecosystem).*
	• Recognize the issues of statistical variability and the need for controlled tests.*
	• Recognize the cumulative nature of scientific evidence.*

	• Analyze situations and solve problems that require combining and applying concepts from more than one area of science.* • Investigate a science-based societal issue by researching the literature, analyzing data, and communicating the findings. Examples of issues include irradiation of food, cloning of animals by somatic cell nuclear transfer, choice of energy sources, and land and water use decisions in California.* • Know that when an observation does not agree with an accepted scientific theory, the observation is sometimes mistaken or fraudulent (e.g., the Piltdown Man fossil or unidentified flying objects) and that the theory is sometimes wrong (e.g., the Ptolemaic model of the movement of the Sun, Moon, and planets).* • Investigate a societal issue by researching literature on behavior, analyzing data and communicating findings and discuss possible future outcomes. • Demonstrate interconnections between the many disciplines of science. • Demonstrate the interdisciplinary connections between science and other curricular fields. **Note:** *Asterisked items are Science Investigation and Experimentation Standards for the State of California.*
Representative Content Objectives	*In accordance with their individual capacity, students will grow in the ability to:* • Describe the various levels of behavior and the phyla in which these behaviors commonly occur. • Describe the concepts of conditioning, tropisms, and stimulus and response. • Explain how to recognize and describe different social behaviors such as imprinting, aggression, dominance, courtship, socialization, territoriality, migration and circadian rhythm. • Explain how to identify individuals within a social group, and escrit how to create an ethogram. • Interpret data from both long- and short- term laboratory investigation

	and make appropriate conclusions. • Observe and understand animal behavior in modern applicati ns as i is used in conservation, and behavioral ecology. • Observe and apply the basic principles of operant conditionin in bo a laboratory and natural setting • Observe natural behaviors of the few migratory species that u e the reserves in the Southern California Region. • Observe the beneficial effects of environmental enrichment b participating in an enrichment program at one of the local wild nimal facilities. • Observe canids in an artificial pack setting to gain first hand knowledge of the social and hierarchical behaviors of domestic anids. • Develop a practical understanding of the professional opportu ities and applications that are available for behaviorists. • Understand the effects of captivity and how zoos and wild an nal parks worldwide are making attempts to normalize the behavio of captive exotics. • Develop an early graduate-level understanding of behavior b readir and analyzing research articles, journal publishings, and other b havio related materials.