

Lock Haven University Of Pennsylvania
Lock Haven, Pennsylvania

Psychology Department

PSYC359 Primatology

I. Introductory Information

A. Department Name: Psychology

B. Department Catalogue Number: PSYC359

C. Course Title: Primatology

D. Credit in Terms of Semester Hours: 3 s.h.

E. Clock Hours per Week: 3 hours

F. Overlays: None

G. Restrictions Upon Student Registration: The following prerequisites must be met to enroll in this course: Biology 101 or 106 required; and at least one of the following Introduction to Psychological Science (Psyc 100) or Child Development (Psyc 102) or Introduction to Sociology (Soc101) or Introduction to Anthropology (Anth 101)

II. Description of the Course:

A. Catalog description: This course provides an opportunity for students to study the primate order which consists of some 230 different living species that are divided into 13 families. Old world and new world monkeys will be studied as well as prosimians and the greater and lesser apes. Their evolution, taxonomy, morphology, habitats, social organization, behavior and cognition will be described. Endangered species will be identified and strategies to promote their survival will be discussed.

III. Exposition:

A. Objectives:

Students will be able to demonstrate the following:

1. knowledge of the taxonomy of the primate order and knowledge of the morphological principles that distinguish the many different species.
2. knowledge of the types of social organization that exist in primate groups and the nature of the social bonds that exist within these groups. Students will also demonstrate knowledge of the social organization that is utilized by each of the particular species of primates that are studied.

3. knowledge of the constitutional and environmental factors that shape the social organization of different primate species.
4. knowledge of the regions of the world where particular primate species live and the characteristics of the habitats to which they have adapted.
5. knowledge of the theories of primate evolution and will demonstrate knowledge of how these theories were derived from the fossil record.
6. knowledge of the types of foods that primates consume and the specific dietary adaptations that they have developed.
7. knowledge of the reproductive cycles and mating patterns of different primate species as well as their child rearing practices.
8. knowledge of the communication systems that are utilized by primates: vocalizations, facial expressions, body postures and gestures, and scent marking.
9. knowledge of the criteria for an endangered specie, what factors contribute to a specie being endangered and what can be done to save an endangered specie.
10. knowledge of the behavioral capacities of selected primate species with a focus on language training and problem solving in laboratory and natural settings.

B. Activities and Requirements:

1. Complete required readings on time in order to contribute relevantly to class discussions.
2. Perform satisfactorily on in class examinations.
3. Give a satisfactory oral presentation to the class on a chosen topic from a list of topics provided.
4. Submit a satisfactory written paper on the topic chosen for their oral presentation.

C. Major Units and Time Allotted: (3 hours reserved for testing)

1. Taxonomy of the Primate Order (12 hours)
 - a. Tree shrews
 - b. Prosimians
 - c. Tarsiers
 - d. New world monkeys
 - e. Old world monkeys
 - f. Greater and lesser apes

2. Primate morphology (3 hours)
 - a. Skull structure (post orbital bar) & dentition patterns
 - b. Brain size & complexity
 - c. Stereoscopic vision
 - d. Grasping hands and feet (nails rather than claws), prehensile tail
 - e. Sexual dimorphism
 - f. Skeletal features that predispose primates to brachiating, knuckle walking, upright posture
 - g. Superior dexterity and muscle coordination
 - h. Placental variation and neotony

3. Research Methodology (3 hours)
 - a. Observational studies in natural environments
 - b. Observational intervention studies in natural environments
 - c. Observational studies in captive environment
 - d. Observational intervention studies in captive environments
 - e. Laboratory Studies

4. Primate Evolution (3 hours)
 - a. The primate tree and geological time
 - b. Plesiadapis, the earliest fossil primate
 - c. Notharctus, an early fossil lemur
 - d. Tarsiers, early fossil forms
 - e. Aegyptopithecus an early ancestor of both new and old world monkeys and the rafting hypothesis
 - f. Proconsul an early hominoid that was the ancestor of apes and humans

5. World Distribution and Habitats of Primates (3 hours)
 - a. Regions
 - i. Central, South America
 - ii. Africa
 - iii. Madagascar
 - iv. South Asia, Japan
 - v. India, Sri Lanka
 - vi. Malay Peninsula
 - vii. South East Asian Islands (Sumatra, Mentawi Islands, Java, Borneo, Sulawesi, Phillipine Islands)

- b. Habitats
 - i. Rain forest (emergent layer, canopy, understory, ground)
 - ii. Gallery forest
 - iii. Woodlands
 - iv. Savanna
 - v. Scrub
 - vi. Semidesert

- 6. Social Organization, Diet, Sexual Behavior and Aggression Among Primates (6 hours)
 - a. Grouping patterns: community, large group, small group, number of resident males, monogamous pairs, polyandrous group, family, solitary
 - b. Factors that effect group organization: predators, child care, food sources
 - c. Diets: leaves, fruit, gums, insects, birds eggs, small vertebrates
 - d. Reproductive cycles and receptivity
 - e. Gender differences in aggression and dominance

- 7. Cognitive abilities of Primates (6 hours)
 - a. Communication systems operating in natural habitats
 - b. Social cognition operating in natural habitats
 - c. Tool use and the transmission of culture
 - d. Language training in hominid species
 - e. Laboratory studies: numerosity, self awareness, causality

- 8. Students Presentations: Students will present papers on specified topics. A sample of a few topics is listed below. (6 hours)
 - a. Should Tupaia (tree shrews) be included in the Primate Order?
 - b. Do Tarsiers represent a transitional infraorder in addition to prosimians or should they be included as a prosimian family?
 - c. What evidence is there that monkeys & apes have culture? That is do they pass down skills from generation to generation that are tribal specific?
 - d. Is there evidence that Bonobo chimps, Gorillas and Orangutans can learn and use language?
 - e. What are the factors that are most influential in determining the social organization of primate groups? (e.g. predators, infant care, food sources etc.)
 - f. What is the evidence for tool use among nonhuman primates?
 - g. Is it acceptable to keep primates in captivity and, if so, what are the minimal requirements for their housing, feeding, and care.
 - h. What are the evolutionary events that led to the development of the lemurs and lorises on the island of Madagascar?
 - i. What are the different methods of locomotion used by primates and what skeletal morphologies dictate them?
 - j. What strategies have been used to preserve the habitats of primates and to discourage the destruction of these habitats?
 - k. Choose a particular species or group of subspecies of primates and present information on its identification, habitat, diet, social organization, reproduction and infant rearing.

D. Materials and Bibliography

1. **Suggested textbooks:** No single textbook covers all the topics listed under major units. A selection of readings may be more appropriate.
2. **Other Materials:** This course requires students to be able to identify a wide variety of primates. Therefore it is essential that the instructor present pictures and videos to the students that accurately depict many different primate species. The instructor has 335 slides that have been previously utilized to teach a Primatology course. Many of the books listed in the bibliography have excellent color pictures that can be presented using Elmo or scanned into a Power Point presentation. Two additional sources are a CD produced by Prentice Hall listed in the bibliography and the Primate Factsheets website that can be accessed on the internet.

3. Bibliographic Support:

Burton, Frances. (1995). *The Multimedia Guide to the Non-Human Primates*. Scarborough: Prentice Hall Canada Inc.

Ciochon, Russell L. & Richard A. Nesbett. (1998). *The Primate Anthology Essays on Primate Behavior, Ecology, and Conservation from Natural History*. Upper Saddle River, N.J.: Prentice Hall

Clark, W.E. Le Gros. (1959) *The Antecedents of Man An introduction to the Evolution of the Primates*. Chicago: Quadrangle Books

DeVore, Irven & Sarel Eimerl. (1984). *Illustrated Library of Nature Vol. 1 Primates*. Westport: H.S. Stuttman Inc. Publishers

De Waal, Frans B. M. (ed.). (2001). *Tree of Origin What Primate Behavior Can Tell Us about Human Social Evolution*. Cambridge: Harvard University Press

De Wall, Frans (2001). *The Ape and the Sushi Master Cultural Reflections of a Primatologist*. New York: Basic Books

De Waal, Frans & Frans Lanting. (1997). *Bonobo The Forgotten Ape*. Berkeley: University of California Press

Dolhinow, P. & A. Fuentes (1999). *The Nonhuman Primates*. Mountain View, Ca.: Mayfield Publishing Company

Falk, D. (2000). *Primate Diversity*. New York: Norton & Company

Fedigan, Linda Marie. (1982) *Primate Paradigms: Sex Roles and Social Bonds*. Montreal: Eden Press

- Fleagle, John G. (1999). *Primate Adaptation and Evolution*. San Diego: Academic Press
- Fleagle, John G., Charles Janson & Kaye Reed. (1999) *Primate Communities*.
Cambridge: Cambridge University Press.
- Goodall, Jane (1986). *The Chimpanzees of Gombe Patterns of Behavior*. Cambridge:
The Belknap Press of Harvard University Press
- Harrisson, Barbara. (1987). *Orang-utan*. New York: Oxford University Press
- Hauser, Marc D. (2000). *Wild Minds What Animals Really Think*. New York: Henry Holt
and Company
- Jay, Phyllis. (1968). *Primates Studies in Adaptation and Variability*. New York: Holt
Rinehart and Winston
- Kummer, Hans. (1995). *The Quest of the Sacred Baboon*. Princeton: Princeton
University Press
- Macdonald, David. (1984). *All the Worlds Animals Primates*. Oxford: Torstar Books Inc.
- Napier, J.R. & P. H. Napier (1967). *A Handbook of Living Primates*. London: Academic
Press
- Napier, J.R. & Napier P. H. (1986). *A Natural History of the Primates*. Cambridge: The
MIT Press
- Novak, Melinda & Andrew Petto (1991). *Through the Looking Glass Issues of
Psychological Well-Being in Captive Nonhuman Primates*. Washington: American
Psychological Association
- Nowak, Ronald M. (1999). *Walker's Primates of the World*. Baltimore: Johns Hopkins
University Press
- Oxnard, Charles. (1983). *The Order of Man A Biomathematical Anatomy of the
Primates*. Hong Kong: Hong Kong University Press
- Sanderson, Ivan T. (1957). *The Monkey Kingdom*. New York: Doubleday & Company
- Savage-Rumbaugh, Sue, Stuart G Shanker & Talbot J. Taylor. (1998). *Apes, Language,
and the Human Mind*. Oxford: Oxford University Press
- Sleeper, Barbara. (1997). *Primates The Amazing World of Lemurs, Monkeys, and Apes*.
San Francisco: Chronicle Books
- Smuts, Barbara, B. (1987). *Primate Societies*. Chicago: Chicago University Press

Strier, K.B.(2000). *Primate Behavioral Ecology*. Boston: Allyn & Bacon

Terrace, Herbert S. (1979). *Nim a Chimpanzee Who Learned Sign Language*. New York: Alferd A. Knopf

Tattersall, Ian. (1995) *Primates Lemurs, Monkeys, and You*. Brookfield, Conn: The Millbrook Press

Zihlman, Adrienne L. (2000). *The Human Evolution Coloring Book*. New York: Harper Collins Publishers

Relevant Periodicals:

American Journal of Physical Anthropology
American Journal of Primatology
Animal Behavior
Evolutionary Anthropology
Folia Primatologica
International Journal of Primatology
Journal of Zoology
Molecular Phylogenetics and Evolution
Primates

IV. Standards: The final grade will be based on performance on examinations, as well as in class presentations and in class participation.

V. Rationale and Impact:

Based on a survey conducted by the psychology department, psychology majors expressed an interest in taking a course in primatology. Each semester approximately 6-8 students are actively involved in research with the squirrel monkeys that are housed in the LHU primate facility. As a consequence of their research work these students have presented posters and talks at local and regional conferences. This course will complement, support and extend these ongoing activities and give students a new potential career perspective.

VI. Cost and Staff Analysis:

The psychology department currently has faculty with the necessary skills to teach this course. This course may be offered in the future. The library's holdings in this area are very weak. It would be advantageous if more current holdings could be developed.

VII. Date Approved by University President:

Signature

Date