

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

Transfer course A.A. degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: AIS 175: American Indian Science and
Technology

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 48

BASIC SKILLS REQUIREMENTS:

Appropriate language and computational skills

ENTRANCE REQUIREMENTS

PREREQUISITE: None

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE:

An introductory course in the development of scientific ideas in American Indian cultures as compared to other cultures in terms of context, practitioners, and technological applications. Primary comparison is with conventional Western areas of physical, biological, and applied sciences derived from scientific methodology.

SPECIFIC COURSE OBJECTIVES:

The successful student will:

1. Apply principles of a general science background from a non-Western context to American Indian traditional context.

2. Analyze, through historical perspectives, how different cultures develop and apply scientific ideas for successful and non-successful outcomes in adaptation to their perspective environments.
3. Evaluate the context of the development of scientific ideas and scientific methodology in American Indian civilizations.
4. Compare and contrast American Indian scientific ideas and current Western scientific theory.
5. Develop a basic awareness of general science for non-science majors and evaluate the need for scientific literacy in all academic applications and in the overall populace.
6. Identify American Indian technological contributions in the Post-Columbian exchange.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Philosophy of Science
 - A. Western Development of Scientific Theory and Method
 - B. Non-Western Systematic Inquiry
 - C. Comparison of Theoretical Premises
 - D. Mathematics and Numeric Systems
- II. Physical Science in Indian America
 - A. Cosmology and Archaeoastronomy
 1. Maya: Palenque
 2. Inca: Cuzco
 3. Anasazi: Chaco Canyon
 4. Mississippi: Cahokia
 5. Chumash: Mt. Pinas
 - B. Earth
 1. Algonkian Woodland Culture
 2. Pueblo Desert Farmers
 3. Southern California Desert/Coastal Culture
 4. Kwakiutl Maritime Culture
 5. Tzeltal Maya Jungle Farmers
 6. Columbian Tropical Cultures
- III. Biological Sciences
 - A. Ethnozoology
 1. Algonkian Hunters
 2. Pueblo Hunting
 3. Southern California Hunting
 4. Kwakiutl Fisherman and Hunters
 5. Maya Hunting and Domesticity
 6. Columbian Hunting
 - B. Ethnobotany:
 1. Ojibwa Mediwiwin
 2. Made People (Tewa)
 3. Cahuilla Shaman

4. Kwakuitl Medicine Society
 5. Maya Chemo-taxonomy
 6. Columbia's Hallucinogens
- IV. Technological Applications and Engineering
- A. Medicine
 1. Pharmacology
 2. Surgical Techniques
 3. Physical Therapeutic
 - B. Tool Industries
 1. Stone and Bone Tools
 2. Wheels, Levers, and Inclines
 - C. Architecture
 1. Domestic
 2. Ceremonial Complexes
 3. Urban Planning
 - D. Subsistence
 1. Hunting Techniques, Ecology, and Burning
 2. Foraging and Plant Ecology
 3. Farming, Irrigation, Chinampa, Slash-burn, Terraces
 - E. Master Planning and Social Systems

REQUIRED READING:

- Aveni, A.F., ed. Native American Astronomy. Arlington: University of Texas Press, 1977.
- Nabokov, P. and R. Easton. Native American Architecture. New York: Oxford University Press, 1989.
- Weiner, M.A. Earth Medicine, Earth Food. New York: Collier, 1980.

SUGGESTED READING:

- Brown, Janet. "Native American Contributions to Science, Engineering, and Medicine Science." Science 189 (July 4, 1975: 38-40).

REQUIRED WRITING:

Two essay quizzes (mid-term and final), 4-8 pages in length
 Paper: Problem solving written practicum paper, 7-10 pages

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short term classes.

The student will read and study the texts and class notes. The problem solving practicum will require outside research, writing, and graphs/charts.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply. (See guidelines for preparation for definitions.)

- telecourse
- mediated instruction
- computer assisted instruction

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

Suggested percentages:

Quiz 1	33.3%
Quiz 2	33.3%
Practicum paper	33.3%

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for credit:

If yes, identify specific provision of Title 5 Division 2 section(s) 55761-55763 and 58161 which qualifies course as repeatable:

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