FORM VERSION: 5/95
DATE REVISED:

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR DEGREE CREDIT COURSE

__x__ Transfer course __x__ A.A. degree applicable course

(check all that apply)

COURSE NUMBER AND TITLE: Anthropology 220: Advanced Archaeological Surveying

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 64

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills

ENTRANCE REQUIREMENTS:

PREREQUISITES: None
COREQUISITES: None
RECOMMENDED PREPARATION: Anthropology 210

SCOPE OF COURSE:

Advanced archaeological survey techniques including: the design of sample surveys; the use of Global Positioning System (GPS) hardware and software for site relocation, site recordation, data conversion, and site mapping; the use of a total station laser transit and accompanying software for site mapping; and the completion of a site mapping project.

SPECIFIC COURSE OBJECTIVES:

Upon the completion of this course, students will be able to:

1. locate in the field, previously plotted archaeological sites, with the aid of a topographic map and a hand-held Global Positioning Unit (GPS) unit.
2. compare and contrast the design and goals of reconnaissance, sample, and intensive survey techniques.
3. devise an appropriate sample survey strategy for a given geographic area based on an archaeological research design.
4. utilize a hand-held Global Positioning System (GPS) datalogger unit to record site artifact and feature data and map site boundaries in the field.
5. download field data from the datalogger to a computer hard drive.
6. download and convert GPS base station data from a local base station.
7. request, download, and convert archived GPS base station data from a local base station.
8. perform differential corrections on GPS field data using the base station data with the appropriate software.

9. generate a site and feature map using the corrected GPS field data with the appropriate software
10. set up and use a full station laser transit to map archaeological sites, including artifact, feature, and site boundary data.
11. download laser transit data into a computer hard drive or mapping software file and print out hard copies of survey data records.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

I. Review of Basic Surveying Techniques
   A. Topographic Map Reading
   B. Compass Use
   C. Field Pace
   D. Site Recordation and Relocation
II. Reconnaissance, Sample, and Intensive Surveys
   A. Reconnaissance surveys
   B. Sample surveys
   C. Intensive surveys
   D. Designing a sample survey
III. Using Global Positioning System (GPS) Hardware and Software
   A. Functions of the GPS field unit
   B. Battery operation
   C. Menus of the GPS field unit
   D. Use of GPS field unit to relocate recorded sites
   E. Use of GPS field unit to record archaeological sites
      1. Creating an almanac (new position)
      2. Setting coordinates
      3. Use of field log
      4. Opening and closing files
      5. Creating Point and Feature files
      6. Collecting data
      7. Recording site boundaries.
   F. Downloading GPS data from datalogger
      1. Linking datalogger to the computer
      2. Using software to download the files
   G. Downloading and converting GPS base station data
      1. Accessing local base station over the Internet
      2. Downloading base station data
      3. Requesting and accessing archived base station data
   H. Performing differential correction of GPS field data
   I. Producing site maps with GPS data
IV. Using Full Station Laser Transit Hardware and Software
   A. Functions of the laser transit
   B. Laser transit field setup
      1. Hardware
      2. Datalogger
      3. Establishing a datum
   C. Use of laser transit in the field to map archaeological sites
      1. Siting objects or features to be recorded
      2. Recording and labeling objects sited in datalogger
      3. Use of stadia rod with prism
   D. Downloading laser transit data into computer hard disk or software file and printing datalogger records
      1. Linking datalogger to computer
      2. Downloading datalogger data into computer mapping file
      3. Printing datalogger records

REQUIRED READING:

Hester, Thomas R., Harry J. Shafer, and Kenneth L. Feder. *Field Methods in Archaeology*. Seventh Edition. Mountain View, CA: Mayfield, 1997.

Hewlett Packard. *HP 48G Series Quick Start Guide*. Fifth Edition. Corvallis, OR: Hewlett Packard, 1994.

Kjellstrom, Bjorn. *Be Expert with Map and Compass*. New York: Charles Scribner's Sons, 1976.

Instructor manuals for GPS and laser transit hardware and software.

SUGGESTED READING:

Hewlett Packard. *HP 48G User's Guide*. Eighth Edition. Corvallis, OR: Hewlett Packard, 1994.

Trimble Navigation Limited. *GeoExplorer II Operation Manual, Version 2.11*. Sunnyvale: Trimble Navigation Limited, 1996.

Trimble Navigation Limited. *Operating Manual, GPS Pathfinder Basic Receivers, Version 5.29* Sunnyvale: Trimble Navigation Limited, 1992.

Trimble Navigation Limited. *Pathfinder Office Software, Volumes 1-3.* Sunnyvale: Trimble Navigation Limited, 1996.

Tripod Data Systems, Inc. *Surveying Card Tutorial Manual*. Corvallis, OR: Tripod Data Systems, 1996.

Tripod Data Systems, Inc. *Survey Link, The Smart Communications Solution User's Manual*. Corvallis, OR: Tripod Data Systems, 1995.

REQUIRED WRITING:

Course focuses on problem solving exercises and skills demonstrations by the students. Some writing required for short answer questions on quizzes and for 3-5 page sample survey design.

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.

Reading course text, preparing archaeological sample survey design, and completing site mapping project.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

_x__ lecture
____ laboratory
_x__ 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 __x__

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):

Quiz containing a mix of short answer and objective questions focused on topographic map reading and sample surveys. Three field exercises focused on use of topographic map, compass, GPS, and laser transit. Design of sample survey. Three laboratory exercises focused on use of GPS and laser transit software. Completed map project.

1 quiz:	10%
1 sample survey design:	10%
3 field exercises:	30%
3 lab exercises:	30%
1 completed map project:	20%

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?
Yes ____ No _x_ Number of times course may be taken for credit: _1__

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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