COLLEGE OF THE DESERT

Course Code NR-020

Course Outline of Record

1. Course Code: NR-020
2. a. Long Course Title: GPS and Map Use
   b. Short Course Title: GPS & MAP USE
3. a. Catalog Course Description:
   This course provides an overview of Global Positioning System and map use technology. Students utilize hand-held GPS units and learn to apply the basic functions. Students are provided with opportunities to learn application techniques. Students may choose the Pass/No Pass grading option.
   b. Class Schedule Course Description:
   This course provides an overview of Global Positioning System and map use technology. Students utilize hand-held GPS units and learn to apply the basic functions. Students may choose the Pass/No Pass grading option.
   c. Semester Cycle (*if applicable*): N/A
   d. Name of Approved Program(s):
   - NATURAL RESOURCES AS Degree for Employment Preparation
4. Total Units: 1.00 Total Semester Hrs: 18.00
   Lecture Units: 1 Semester Lecture Hrs: 18.00
   Lab Units: 0 Semester Lab Hrs: 0
   Class Size Maximum: 22 Allow Audit: No
   Repeatability No Repeats Allowed
   Justification 0
5. Prerequisite or Corequisite Courses or Advisories:
   Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm1-A)
   N/A
6. Textbooks, Required Reading or Software: *(List in APA or MLA format.)*
   a. Letham, Lawrence (2008). *GPS Made Easy* (4th /e). WA The Mountaineers Publication.
   College Level: Yes
   Flesch-Kincaid reading level: 12
   b. Jacobson, C. (1999). *Basic Essentials: Map and Compass* (5th/e). Guilford CT The Globe Pequot Press.
   College Level: Yes
   Flesch-Kincaid reading level: 12
7. Entrance Skills: *Before entering the course students must be able:*

8. Course Content and Scope:

Lecture:

1. Basic Map and Compass Use
   1. Identify features on a map
   2. Mark positions on map using the UTM coordinate system
   3. Take a magnetic bearing in the field
2. Basic operation of GPS unit functions
   1. Determine present position
   2. Marking and finding waypoints
   3. Convert latitude/longitude to UTM
   4. Change settings e.g. time, contrast, light, etc.
   5. Create and follow a route.
   6. Use track back function
   7. Determine bearing to a waypoint
   8. Use distance and sun feature

3. Data collection
    1. Saving and storing waypoints
    2. Renaming or deleting waypoints
    3. Retrieving and organizing waypoints
4. Mapping
    1. Change map scale
    2. Use the PAN feature
    3. Clear the map
5. Information downloading
    1. Data downloading from a computer
    2. Creating GIS layered maps from stored waypoints

Lab: *(if the "Lab Hours" is greater than zero this is required)*

9. Course Student Learning Outcomes:
    1. Apply the basic functions of a handheld GPS (Global Positioning System) unit.
    2. Navigate through a wilderness course using a GPS unit as their guide.
    3. Describe the interface between GPS and GIS (Geographic Information System).

10. Course Objectives: *Upon completion of this course, students will be able to:*
    a. Demonstrate the ability to use a map/compass/GPS unit in a field setting.
    b. Explore an area using only a hand-held GPS unit.
    c. Read a topographic map and correlate it to GPS.
    d. Identiry various waypoints and return to them using GPS.
    e. Understand the basic relationship between GPS and GIS.

11. Methods of Instruction: *(Integration: Elements should validate parallel course outline elements)*
    a. Discussion
    b. Lecture

    Other Methods:

    a. Hands-on field work/exercises b. Multimedia presentation: video, power point, slides, overhead projector.

12. Assignments: *(List samples of specific activities/assignments students are expected to complete both in and outside of class.)*
    In Class Hours: 18.00
    Outside Class Hours: 36.00
    a. In-class Assignments
        1. Take comprehensive notes during lectures
        2. Practical examinations
        3. Classroom discussions
        4. In class quizzes
        5. Map-reading assignments
    b. Out-of-class Assignments
        1. Complete map and compass skills worksheet
        2. Complete GPS using skills worksheet

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*
    - Written homework
    - Field/physical activity observations
    - Group activity participation/observation
    - True/false/multiple choice examinations
    - Mid-term and final evaluations
    - Student participation/contribution
    - Other

a. Completed map and compass skills worksheet b. Complete GPS using skills worksheet

14. Methods of Evaluating: Additional Assessment Information:

Complete field course.

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*

PO - Career and Technical Education

Fulfill the requirements for an entry- level position in their field.

Apply critical thinking skills to execute daily duties in their area of employment.

Display the skills and aptitude necessary to pass certification exams in their field.

Transfer to a higher level learning institution

IO - Personal and Professional Development

Value diverse cultures and populations.

Value the feedback of others.

IO - Aesthetics

Apply and relate theories of aesthetics to everyday life.

IO - Critical Thinking and Communication

Apply standard conventions in grammar, mechanics, usage and punctuation.

Utilizing various communication modalities, display creative expression, original thinking, and symbolic discourse.

IO - Global Citizenship - Scientific & Technological Literacy

Utilize quantitative expression in a variety of contexts. These would include units of measurement, visual representations, and scales and distributions.

IO - Global Citizenship - Ethical Behavior

Exhibit respect for self and others.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year

17. Special Materials and/or Equipment Required of Students:

18. Materials Fees: ☐ Required Material?

Material or Item	Cost Per Unit	Total Cost

19. Provide Reasons for the Substantial Modifications or New Course:

periodic review

20. a. Cross-Listed Course *(Enter Course Code)*: *N/A*
    b. Replacement Course *(Enter original Course Code)*: *N/A*

21. Grading Method *(choose one)*: Pass/No Pass Optional

22. MIS Course Data Elements
    a. Course Control Number [CB00]: CCC000133491
    b. T.O.P. Code [CB03]: 11500.00 - Natural Resources
    c. Credit Status [CB04]: D - Credit - Degree Applicable
    d. Course Transfer Status [CB05]: B = Transfer CSU
    e. Basic Skills Status [CB08]: 2N = Not basic skills course
    f. Vocational Status [CB09]: Possibly Occupational
    g. Course Classification [CB11]: Y - Credit Course

h. Special Class Status [CB13]: N - Not Special
i. Course CAN Code [CB14]: *N/A*
j. Course Prior to College Level [CB21]: Y = Not Applicable
k. Course Noncredit Category [CB22]: Y - Not Applicable
l. Funding Agency Category [CB23]: Y = Not Applicable
m. Program Status [CB24]: 1 = Program Applicable

Name of Approved Program *(if program-applicable)*: NATURAL RESOURCES
Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)

23. Enrollment - Estimate Enrollment
First Year: 0
Third Year: 0

24. Resources - Faculty - Discipline and Other Qualifications:
a. Sufficient Faculty Resources: Yes
b. If No, list number of FTE needed to offer this course: *N/A*

25. Additional Equipment and/or Supplies Needed and Source of Funding.
N/A

26. Additional Construction or Modification of Existing Classroom Space Needed. *(Explain:)*
N/A

27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES
Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

28. Originator Kurt Leuschner Origination Date 09/09/16