

## Syllabus

Course Number: **INT 934 – Geocaching, Integrated Curriculum**, (Methods and Activities; Grades K-12)

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### Course Description:

This online methods course is designed to explore how the study of Geocaching can be used to enrich the Social Studies program. Geocaching is a tool that integrates all curriculum areas so that no subject is taught in isolation. It makes learning seem like an adventure. You will learn about communication satellites and how they are used in everyday rescue and communication systems all over the world. Teachers will have a better understanding of Geography by taking this course. The participants are required to complete and evaluate a planned series of Labs and/or experiences with their students. This course is in alignment with the California State and National Geography, Science and Technology Standards. All of these labs and/or experiences may be used with children in the classroom, home, and/or neighborhood. This course is offered as a regular distance learning class.

The following National Educational Technology Standards for Students are addressed in this class:

### Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

Students:

- a. apply existing knowledge to generate new ideas, products, or processes.
- b. create original works as a means of personal or group expression.
- c. use models and simulations to explore complex systems and issues.
- d. identify trends and forecast possibilities.

### Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Students:

- a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
- b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- c. develop cultural understanding and global awareness by engaging with learners of other cultures.
- d. contribute to project teams to produce original works or solve problems.

### 3. Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information.

Students:

- a. plan strategies to guide inquiry.
- b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- d. process data and report results.

### Critical Thinking, Problem Solving, and Decision Making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Students:

- a. identify and define authentic problems and significant questions for investigation.
- b. plan and manage activities to develop a solution or complete a project.
- c. collect and analyze data to identify solutions and/or make informed decisions.
- d. use multiple processes and diverse perspectives to explore alternative solutions.

### Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

Students:

- a. advocate and practice safe, legal, and responsible use of information and technology.
- b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- c. demonstrate personal responsibility for lifelong learning.
- d. exhibit leadership for digital citizenship.

### 6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations.

Students:

- a. understand and use technology systems.
- b. select and use applications effectively and productively.
- c. troubleshoot systems and applications.
- d. transfer current knowledge to learning of new technologies.

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Students will understand how to apply geography to interpret the present and plan for the future.

### Primary Learning Outcomes

1. Teachers who take this course to articulate Geocaching relative to their daily life. You will learn about Longitude and Latitude. Ns. K-8.1, K-4.2, K-8.5, 6a, 6b and 6c
  2. Teachers will identify how to effectively present the study of Geocaching in a variety of situations, including: Geology, Geography, Math, Language Arts, plus other areas of science instruction. NSS-G.K-12.6, 4a, 4b 3.
  - Teachers will be able to articulate how the State and/or National Standards were met using this material. The Social Studies and Geography Standards are met taking this class. 3a, 6c 4.
  - Teachers will be able to see a process on how to teach this material effectively as they learn about other cultures. 2b, 2c 3b 5.
  - Teachers will design, conduct, evaluate and communicate Geocaching investigations by performing a set of lessons and creating other on their own. 1b, 2d 6.
  - Teachers will describe how the knowledge of Geocaching and technological developments impact society in their travel, knowledge of other countries and understanding of their own neighborhood. 2a, 2b 7.
  - Teachers will be able to write summaries about satellites, where geocaching got its start and show students how to take learning with them on their family trips.
- All responses are to be posted in a Forum. Either under the lesson, or where the teacher can find a place to post the information he/she has collected.

Brief description:

Each lesson in the Educaching curriculum before you guides the teacher, whether beginner or experienced, through the process of using CPS technology. Every lesson plan spells out in detail the objectives covered, the materials needed, and step-by-step procedures to follow. These lessons are varied from beginner to advanced levels. You will be able to use this material in Math, Science, Language Arts, and technology to solve real life problems.

### Course Requirements

1. The teacher is to do 15 Labs and/or experiences with his/her class or on their own. Forums are included for the teacher to make an evaluation of the material presented in each Lab. The place to make these posts are located under each lesson.
2. The teacher may write Labs of her/his own. There is a place to post these labs at the bottom of the assignments in the Forums following the Lessons.
3. The teacher is to list the State and/or National Standards that were met teaching each Lab where requested in the Forum section.
4. Post a one page report describing how this class enhanced your curriculum in the Forum section at the top of the front page.

### Grading and Rubrics

Grades will be assigned based on points earned during the course. Grades will be given on the following basis: A=99-110 points, B=88-98 points. For a credit grade you must have at least 88 points. Check the Grading Rubric for points given.

### Instructor/Student Contact

"Built into the course requirements, are several contacts between the course instructor and the student as your postings are made. Questions are addressed and assistance is offered through these contacts between the instructor and student." These contacts are confirmed when the Students goes online and posts their assignments.

### Assignments.

Take a look at the curriculum required by your district. Perform the labs and/or experiences included in this course that are appropriate to meet the needs of your district. By doing the labs and/or experiences, you will be able to become more proficient in your ability to communicate with your students, parents, fellow teachers and administration.

Labs and experiences are designed with the busy life of a teacher in mind. The labs and/or experiences are designed to give you a basic format from which to develop the concepts.

### Topics to be discussed:

- 1 History of Geocaching?
2. What is GPS? Learn the lingo: cache, coordinates, educache, educaching, geocaching, GPS, GPS receiver, field sheet, student/teacher map, trackpoints, travel bug/geocoin, and waypoint.
3. Tour of Geocaching.com
4. Creating your own cache.
5. Classroom use.
  - a. Show me the Money.
  - b. Seek the problem, find the solution.
  - c. Finding the perimeter
  - d. Chemical or physical change
  - e. Send in the probes.
  - f. Satellite positions.

- g. Find the solution multi-educache.
- h. Light and sound race.
- i. Scientific career hunt.
- j. Search and rescue
- k. Discovering the Ancient Pyramids

6. Write your own story of geocaching.

7. Write lessons of your own.

#### Policy on Plagiarism

All people participating in the educational process at Fresno Pacific University are expected to pursue honesty and integrity in all aspects of their academic work. Academic dishonesty including plagiarism, will be handled according to the procedures set forth on page 8 of the Fresno Pacific University Catalog.

Graduate level course work reflects Fresno Pacific University's Desired Student Learning Outcomes as it applies to professional development to demonstrate the following:

- \* Oral and written communication individual and group settings.
- \* Content knowledge, and application of such knowledge in the students' area of interest to affect change.
- \* Reflection for personal and professional growth.
- \* Critical thinking.
- \* Cultural and global perspectives to understand complex systems.
- \* Computational/methodological skills to understand and expand disciplines, including an understanding of technological systems"

#### References:

<http://www.pbs.org/wgbh/nova/longitude/gps.html>

<http://gpsinformation.net>